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ABSTRACTS

FIBERS A

NATURAL FIBERS A 1

EXPERIMENTAL SPINNING OF COTTON, WITH REFERENCE TO VARIOUS MICRONAIRE UNITS. B. Fischer. Textil-Praxis 13, No. 3: 230-235 (1958). In German. Through BCIRA 38: 536 (1958). (3994)

The effects of different micronaire values and of the degree of cotton maturity on the nep formation tendency were examined, extending the examination also to the appearance of the yarn and fabric. It is shown that the nep formation can be greatly reduced even in an immature cotton by the correct choice of card clothing, and that the dyeing behavior of the cotton yarns and fabrics produced is adversely affected by varying micronaire values and fiber maturity. This is particularly noticeable when processing exclusively mature, exclusively immature or mixtures from both fibers; in the latter case, weft and warp streaks and skittery dyeings may be expected. The nep counting Neptel apparatus is described.

MICRONAIRE TEST IN PRACTICE. K. Stütler. Textil-Praxis 13, No. 3: 226-229 (1958). In German. Through BCIRA 38: 536 (1958). (3995)

Variations of micronaire value within bales and batches are pointed out, and the extent to which they affect the quality of the yarn is discussed.

CAVITOMIC COTTON. G. Guggenheim. Textile Bull. 84: 106-108 (Sept. 1958). (3996)

This article describes some of the factors causing cavitomic cotton and explains its effects on the stock as it is run in the mill. Tables. 5 references.

PECTIN AND WAX CONTENTS OF COTTON AND THEIR RELATION TO ITS PHYSICAL CHARACTERS. R. N. Rao, K. S. Bhujang, and C. Nanjundayya (Indian Central Cotton Comm.). J. Sci. Ind. Research (India) 17B: 320-323 (Aug. 1958). (3997)

The pectin and wax contents of 15 varieties of cottons have been determined and correlated with the surface area per unit weight of the fiber. The results indicate that the pectin content of the fiber is directly proportional to the surface area of the fiber. Graphs. Tables. 15 references.

COTTON FIBER TEST VALUES. M. Hoffmann. Textil-Praxis 13, No. 3: 247-248 (1958). In German. Through BCIRA 38: 536 (1958). (3998)

Micronaire and Pressley values are listed in tables for cottons from North, Central, and South America, Africa, Asia, and Europe (1957/58 season).

IMPORTANCE OF THE STRESS-ELONGATION DIAGRAM AND TENSILE STRENGTH OF SINGLE FIBERS IN WOOL RESEARCH. G. Satlow. SVF Fachorgan Textilveredlung 13, No. 6: 346-355 (1958). In German. Through BCIRA 38: 538 (1958). (3999)

Literature references to static tensile strength measurements on single wool fibers in the wet state and to methods for interpreting the results are reviewed. Other papers in this number which is devoted to wool deal with the present and future economic situation of wool, p. 323-329; physiological characteristics and the care of woolen textiles, p. 330-340; microscopy of wool and its importance in elucidating the occurrence of damages, p. 340-345; lubrication problems in the wool industry, p. 355-367; washing of raw wool, p. 368-375; wool-finishing chemistry, p. 376-385; fast dyeing of wool, p. 385-387; shrinking of wool fabrics, p. 387-398; labeling principles of wool products, p. 397-398.

INDIAN CENTRAL JUTE COMMITTEE ANNUAL REPORT ON THE TECHNOLOGICAL RESEARCH SCHEME FOR 1956-57. Calcutta, India. 1958. 65 p. (4000)

DAMAGE CAUSED BY HAIL UPON HEMP AND ITS EFFECT. A. Steininger and E. Grünsteidl. Textil-Praxis (English ed.) No. 3: 99-102 (Sept. 1958). (4001)

Microscopic examinations on hail-damaged hemp are reported. The yield of long fibers is reduced, the percentage of tow is increased, and the growth of the bast fiber ring is interrupted. Photomicrographs. 3 references.

FIBER YIELDING WEEDS OF BOMBAY AND ITS SUBURBS. PART 3. (a) HISBISCUS TETRAPHYLLUS ROXB., (b) HIBISCUS ESCULENTUS LIN., (c) HISBISCUS ROSASINENSIS LIN. S. M. Betrabet and B. S. Navalkar. Indian Textile J. 68: 672-674, 667 (Aug. 1958). (4002)

Chemical and physical properties were investigated in an attempt to find a jute substitute. Tables. 7 references.

MESTA AND ROSELLE AS JUTE SUBSTITUTES. S. B. Bandyopadhyay. Textile Mfr. 84: 504-507 (Oct. 1958). (4003)

Fiber properties and processing of jute, mesta, and roselle are compared. Tables. 18 references.

TEN YEARS OF CHEMICAL RESEARCH AND TEXTILE PROGRESS. G. Champetier. Bull. Inst. Textile France No. 73: 7-30 (Apr. 1958). In French. Through BCIRA 38: 535 (1958). (4004)

Recent findings concerning the structure of cellulosic and wool fibers are reported, relationships existing between the macromolecular constitution and textile properties are pointed out, and recent work on stereospecific catalysis is reviewed. These studies have made it possible to produce macromolecules whose small ability of lateral interactions is compensated for by a high structural regularity.

COTTON CLASSING IS AN ART. R. Hoisington (Anderson, Clayton Co.). Textile Bull. 84: 94-96 (Sept. 1958). (4005)

The purpose of this paper is to briefly trace the development of cotton descriptions to see on what factors they are based, to examine the considerations of the classer in assigning his values, to point out his difficulties, and to explain some of the causes of differences of opinion.

COTTON FIBER AND PROCESSING PROPERTIES AS RELATED TO GRADES. U. S. Agri. Mktg. Serv., Cotton Div., Washington 25, D. C. Oct. 1958. 73 p. AMS-278. Free. (4006)

This report, based on samples selected from the 1956 annual grade color survey, contains a detailed analysis of the results of fiber and processing tests of cotton selected at random from samples classed into the various grades.

PREPROCESSING PRACTICES AND COSTS OF UNITED STATES TEXTILE MILLS AS AFFECTED BY THE COTTON BALE PACKAGE. D. G. Lafferty and M. R. Cooper. U. S. Agri. Mktg. Serv., Mktg. Research Div., Washington 25, D. C. 1958. 18 p. Mktg. research report no. 253. Available from Superintendent of Documents, Washington 25, D. C. 15¢. (4007)

EFFECTS OF CLEANING PRACTICES AT GINS ON FIBER PROPERTIES AND MILL PERFORMANCE OF COTTON. U. S. Agri. Mktg. Serv., Washington 25, D. C. Aug. 1958. 20 p. Mktg. research report no. 269. Order from Superintendent of Documents, Washington 25, D. C. 15¢. (4008)

VEGETABLE FIBERS: CLASSIFICATION, PLACE OF ORIGIN, PROPERTIES, AND USES. R. Ludovici. Riv. Tessile 13, No. 3: 273-278; No. 4: 391-396; No. 5: 509-513 (1958). In Italian. Through BCIRA 38: 494 (1958). (4009)

A review of the most important vegetable fibers, classified as: seed fibers, bast fibers, hard fibers, and silky fibers.

COTTON GINNER'S PROBLEMS. J. D. Towery (Moss-Gordin Lint Cleaner Co.). Textile Inds. 122: 171-172 (Oct. 1958). (4010)

MANMADE FIBERS A 2

RECENT ADVANCES IN THE INDUSTRIAL USE OF SYNTHETIC FIBERS. J. M. Swanson (E. I. du Pont de Nemours & Co.). Textile Research J. 27: 755-761 (Sept. 1958). (4011)

Examples of the broadening use of manmade fibers in industrial applications include: the use of nylon for tires, and the development of techniques for utilizing improved nylons to best advantage; use of Dacron polyester fiber for V-belts, where techniques for handling adhesion and belt dimensional stability problems have been developed; and use of nylon in vinyl-coated fabrics, where a new adhesive has been formulated which gives good bonding with both plastisol-coated and laminated structures. Tables. Graphs.

PREDICTING COMMERCIAL ACCEPTANCE OF A FIBER. J. L. Barach, R. G. Stoll, and A. F. Tesi (Celanese Corp.). Textile Research J. 27: 747-754 (Sept. 1958). (4012)

A new approach to the difficult problem of predicting the possible commercial acceptance of a new basic fiber is presented. Factors such as processing and user performance are listed; in addition, the even more important incentive factors such as sales appeal and its influence on market acceptance are included. It is shown that the finished goods merchant plays the most important role, since he integrates the incentives of the others and answers the question as to what the market wants. Tables. Graphs. 5 references.

GUIDE TO FIBERS AND FILAMENTS. Skinner's Silk & Rayon Record 32: 939-946 (Sept. 1958). (4013)

This survey of the various manmade fibers and filaments now being used in Britain lists, under each fiber, the name of the producer, brand name, type, denier, and staple length.

PROGRESS IN MANMADE FIBERS. Skinner's Silk & Rayon Record 32: 1032-1043 (Oct. 1958). (4014)

Production range and end uses of British manmade fiber yarns and fabrics.

NON-APPAREL APPLICATIONS OF VISCOSE RAYON. J. A. Howsmon (Am. Viscose Corp.). Textile Research J. 27: 805-810 (Sept. 1958). (4015)

A review of the progress in rayon technology which led to the new super rayons, and a presentation of an up-to-date summary of their physical properties. Tables. Photomicrographs. 7 references.

EUROPEAN PROTEIN FIBERS. Am. Textile Reptr. 72: 11, 42-43 (Oct. 2, 1958). (4016)

The physical properties of Fibrolane (Courtaulds Ltd), Merinova (Snia Viscosa), and Lanital (Les Textiles Nouveaux) are compared, and their economic status described.

DU PONT TYPE C ACETATE. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Sept. 1958. 4 p. Bull. A-35 (replaces Bull. A-25). Free. (4017)

Properties, processing, and crimping features.

WHITHER RAYON? J. Wharton and G. V. Lund (Courtaulds Inc.). Textile Research J. 27: 792-796 (Sept. 1958). (4018)

A general review of certain developments in the viscose rayon production industry is given, together with an account of how rayon can be used in the wash and wear field. Graphs. Tables.

CORN AMYLOSE AND AMYLOSE TRIACETATE FIBERS. I. A. Wolff (Northern Utilization Research & Develop. Div.). Ind. Eng. Chem. 50: 1552 (Oct. 1958). (4019)

Continuous filaments of amylose acetate were dry-spun from chloroform solution. The filaments could be oriented by drawing, with consequent increase in strength. The acetate fibers resembled acetate rayon. Amylose fiber, prepared by alkaline deacetylation of unoriented amylose triacetate fiber, was white and lustrous but weaker than the parent ester fiber. Tables. 6 references.

FIBERS FROM AMYLOSE TRIACETATE. R. L. Whistler and G. N. Richards (Purdue Univ.). Ind. Eng. Chem. 50: 1551 (Oct. 1958). (4020)

Yarns made from amylose triacetate have lower tensile strength than those from cellulose acetate, but greater elongation at break. Also, they have greater flexibility and extensibility, but generally they show no superiority. However, because of greater solubility and digestibility, fibers of amylose alone may find special industrial uses. Tables. 8 references.

VERSATILE VISCOSE: THE FIRST PLANNED FIBER. PART 2. FASHIONS AND FURNISHINGS. J. W. S. Hearle. Skinner's Silk & Rayon Record 32: 961-963, 965 (Sept. 1958). (4021)

The different types of viscose rayon available, and the applications which make use of their various physical properties, are described. Photomicrographs. Photographs.

POLYAMIDE AND POLYESTER FIBERS. Ciba Rev. 11: 2-29 (July 1958). (4022)

General, p. 2-8, Manufacture of polyamide and polyester fibers, p. 9-16, Properties and uses of polyamide and polyester fibers, p. 17-24, by H. Hopff and G. Greber; Status of synthetic fibers in the textile field, p. 25-29, by H. U. Schmidlin. Photomicrographs. Graphs. Photographs. Tables.

FIBERS NOTEBOOK. PART 9. TEFLON, ZEFRAN, GLASS FIBERS. J. G. Cook. Fibres 19: 301-302 (Sept. 1958). (4023)

The production, processing, structure, properties, and uses of Teflon, Zefran, and glass fibers are summarized.

CRESLAN ACRYLIC FIBER. Am. Cyanamid Co. Am. Textile Reptr. 72: 31, 35, 115-116 (Sept. 18, 1958). (4024)

History, properties, and applications are discussed.

KODEL POLYESTER FIBER. Eastman Chem. Prods. Inc. Am. Textile Reptr. 72: 23, 27-29, 128-129 (Sept. 18, 1958). (4025)

The basic fiber properties of Kodel are enumerated, and the characteristics imparted to fabrics by the fiber are described.

YARN PRODUCTION B

REVIEW OF THE DIRECT SPINNING AND CONVERTER METHODS. J. Lünenschloss. Textil-Praxis 13, No. 3: 249-256 (1958). In German. Through BCIRA 38: 527 (1958). (4026)

Methods for direct spinning of manmade staple fiber yarns from continuous filament tow are reviewed, with special reference to the respective machinery (Stains spinning machine, Rieter Cutdrafil direct spinning machine, Turbo-stapler, Pacific Converter, etc.).

REGULARITY AND MACHINES. W. Nutter (T. M. M. (Research) Ltd). Textile Weekly 58(1): 1787-1794 (June 27, 1958). Textile Merc. 139: 16-24 (July 4, 1958). (4027)

Factors influencing uniformity of the picker, card, comber, drawframe, and ring frame are examined, and the importance of uniformity at each stage of processing is evaluated.

QUALITY CONTROL IN FLAX SPINNING. PART 2. S. A. G. Caldwell. Textile Recorder 76: 109, 108 (Oct. 1958). (4028)

Procedures for maintaining required quality standards in carding, preparation, spinning, and post spinning operations are described.

WADDING INDUSTRY MACHINERY. W. Neumann. Textil-Praxis (English ed.) No. 3: 108-113 (Sept. 1958). (4029)

New machinery available for the production of cotton batting for surgical uses, upholstery, etc., is reviewed. Photographs. Diagram.

CLEANING MEANS IN SPINNING. Bull. Inst. Textile France No. 73: 83-96 (Apr. 1958). In French. Through BCIRA 38: 527 (1958). (4030)

Review of improved cleaning devices for carding engines, drawframes, and spinning machines (suction installations, blowers, roll pickers). 29 references.

BLENDING METHODS FOR SPUN-DYED CARPET FIBER. India Mills Ltd. Man-Made Textiles 35: 48-49, 53 (Aug. 1958). (4031)

The techniques and machinery used for blending 2-1/2 in. viscose staple for tufted pile yarns in coarse singles count are described. Photographs.

COTTON/DYNEL HIGH-BULK YARNS. J. O. Davis and C. A. Strodl (Union Carbide Chem. Co.). Textile Inds. 122: 157-159 (Oct. 1958). (4032)

Spinning, knitting, dyeing, and finishing techniques are described. Photographs. Tables.

MANUAL OF COTTON SPINNING. VOL. 4. PART 1. THE PRINCIPLES OF ROLLER DRAFTING AND THE IRREGULARITY OF DRAFTED MATERIALS. G. A. R. Foster. The Textile Inst., 10 Blackfriars St., Manchester 3, England, 1958. 150 p. $3.50. (4033)

Drafting is discussed under the broad headings: (1) drafting and drafting machinery, (2) irregularity of drafted materials, (3) general principles of roller drafting, (4) the drafting wave, (5) roller nip movement, (6) roller speed variations, (7) roller slip, (8) analysis of yarn irregularity and the effect of yarn irregularity on cloth appearance, (9) causes of yarn irregularity. References.

COTTON FIBER QUALITY AND CURRENT DOMESTIC MILL REQUIREMENTS. S. C. Mayne, Jr., J. N. Little, and E. E. Berkley (Anderson, Clayton & Co.). Textile Bull. 84: 121-129 (May 1958). (4034)

Field-damaged cotton can be blended with undamaged, strong, fine cotton to produce satisfactory yarn. Considerable savings in cotton costs and processing costs may be realized from careful blending of bales to maintain the mix from day to day about the same in average micronaire reading, grade, and staple length. Factors to be considered are discussed and spinning data are presented. Improved bale coverings and bale covering costs are also discussed. Graphs. Tables. Photographs. 2 references.

COLORED WORSTED MIXTURE YARN. Fibres 19: 322-323 (Oct. 1958). (4035)

The problem of obtaining evenly mixed (but not too well mixed) yarns is discussed.

CARDING AND COMBING B 2

COMBED YARN COST DIFFERENTIALS: A REVIEW OF COSTS IN THE COMBED YARN INDUSTRY. T. R. Hosick. Textile Forum 16: 13-27 (June 1958). (4036)

PRACTICAL COTTON CARDING. J. K. Clegg. Columbine Press, Manchester, England. 1958. 123 p. $2.95. (4037)

Cotton carding is discussed under the headings: preceding processes, card grinding, card setting, flat maintenance, card assembly, miscellaneous maintenance operations, and sliver quality.

DUST IN CARDROOMS. A. E. DeBarr (B. C. I. R. A.). Textile Weekly 58(2): 550-551 (Sept. 5, 1958). (4038)

The cost of running a dust extraction system is analyzed.

FRENCH RECTILINEAR COMBING MACHINE. Soc. Alsacienne de Constructions Mecaniques. Textile Merc. 139: 98, 100-101 (July 18, 1958). (4039)

Features and operation of the PERL comber, single-head gill box IR Rapid, and ring spinning frame manufactured by S. A. C. M. are described. Photographs.

HARTFORD HIGH PRODUCTION COMBER. Platt Bros. Ltd. Platts Bull. 9, No. 6: 137-171 (1958). (4040)

The features and operation of the Hartford comber are described in detail. Some typical production figures taken from mill trials are included. Diagrams. Photographs. Graphs.

PERL RECTILINEAR COMB FOR WOOL AND MIXTURES. Soc. Alsacienne de Constructions Mecaniques. Textile Mfr. 84: 465-466 (Sept. 1958). (4041)

The PERL comber has a width of 12-1/2 in. in order to produce a narrow, rigid comb with an improved nip, capable of running at high speeds without flexing of the mechanism or of the drawing-off rollers. This feature enables high production, while producing a clear, even top. At the minimum speeds, 26 to 32 lb of top/hour can be obtained. Photograph.

ROUTINE CONTROL OF CARD DROPPINGS. G. Hariharan. Bull. Quality Control Assoc., Bangalore 5: 15-16 (May 1958). (4042)

A procedure for developing control charts for card droppings is shown, based on analysis of machine, grouping, and fiber effects.

POWER REQUIREMENTS FOR COTTON CARDING. A. L. Miller and R. S. Brown (So. Reg. Research Lab.). Textile Bull. 84: 99, 102-106 (Sept. 1958). (4043)

This article is a report on the findings of a study concerned with the consumption of power by the various components of the cotton carding machine when running idle and when processing cotton. Through the utilization of a sensitive recording watt meter, determinations were made of power requirements for starting and operating the card under various conditions of lickerin speed and production rate. The influence of bearing friction and lubrication on power is reported, along with the observations of the thermal expansion of the cylinder. Graphs. 4 references.

RIETER C1 REVOLVING FLAT COTTON CARD. Joh. Jacob Rieter & Co. Ltd. Textile Merc. 139: 369-372 (Sept. 12, 1958). (4044)

Features of the machine include improved flexible bends, restyled flats, and the use throughout of anti-friction bearings. Photographs. Diagrams.

WORSTED CARDING: 20-INCH COILER. Platt Bros. Ltd. Platts Bull. 9, No. 6: 185 (1958). (4045)

The 20-inch coiler was designed to meet the demand for greater continuous lengths of sliver. It is briefly described. Photographs.

DRAWING AND ROVING B 3

DRAWING FRAME DRAFTING STUDIES. R. Schön and H. Güttler. Textil-Praxis (English ed.) No. 3: 103-107 (Sept. 1958). (4046)

Experiments are described to show that the adjustment of drafting zones depends on the staple length of the fiber, the nature of the fiber, and the drawing frame construction. It is also necessary to adjust the roller load. Graphs. Diagrams.

METHOD FOR DETECTING DIFFERENCES AMONGST DELIVERIES IN A DRAW FRAME. M. V. Venkataraman (Indian Statistical Inst.). Bull. Quality Control Assoc., Bangalore 5: 17-19, 24 (May 1958). (4047)

Significant differences in sliver weight were determined by means of ranking.

SPINNING, WINDING, TWISTING B 4

EFFECT OF THE BREAST PLATE ON THE QUALITY OF ROVE-SPUN JUTE YARN. S. B. Bandyopadhyay. Textile Mfr. 84: 455-456 (Sept. 1958). (4048)

The function of the breast plate in the jute spinning frame was examined. Experiments were performed at different plate positions, rove twists, yarn grists, and fiber lengths. Correct setting of the plate was found important, but its omission did not impair the quality of the yarns. Diagram. Tables. 6 references.

END-BREAKS IN SPINNING. Textile Dig. 18: 185-198, 227-229 (Oct.-Dec. 1957). (4049)

End-breaks in a modern fine count mill having a normal system of maintenance, by R. N. Gupta, p. 185-193; End-breaks in a modern fine counts mill, by K. P. R. Pillay, p. 195-198; End-breaks in ring spinning: an analysis of their causes, by P. V. Shah, p. 227-229. Survey of causes and means of reduction of end-breaks.

FILEX CLEARER AND BROKEN END COLLECTOR. Sulzer Frères SA. Textile Weekly 58(2): 436-437 (Aug. 22, 1958). (4050)

The Filex pneumatic underclearer and broken end collector for ring frames uses nozzles with broad suction slits to produce a flow of air around as much of the circumference of fluted drawing rollers as possible. Photographs.

THEORY OF THE SPINNING BALLOON. C. Mack (Shirley Inst.). Q. J. Mech. & Appl. Math. 11: 196-207 (1958). (4051)

Differential equations of motion are obtained for a flexible uniform string rotating with a constant large angular velocity about a fixed axis when the string has a constant velocity along its length and air drag per unit length is proportional to a fixed power of the normal component of air velocity and acts in the direction of this component. For steady state curves the equations are solved, a formal solution being obtained for the case of zero air-drag, and an expansion for finite air-drag. 6 references.

NEEDLE BEARINGS FOR DRAFTING ROLLS OF COTTON RING SPINNING MACHINES. W. Günther. Textil-Praxis 13, No. 4: 356-357 (1958). In German. Through BCIRA 38: 526 (1958). (4052)

It is shown that needle bearings can be advantageously fitted to the drafting rollers of cotton ring spinning machines.

LARGE PACKAGE DOUBLE-TWIST MACHINE. Mecaniques Verdol. Textile Weekly 58(2): 143 (July 18, 1958). (4053)

Features of the Verdol 2-for-1 twister for tufted carpet yarns are described. Photographs.

SOME RECENT DEVELOPMENTS IN ARUNDEL COULTHARD WINDING AND DOUBLING MACHINES. E. Dixon (Arundel Coulthard & Co.). Textile Merc. 138: 993-997 (June 27, 1958). (4054)

Modern trends toward larger packages and higher speeds and their impact on machine developments are discussed. Photographs.

ECONOMICS OF TRAVELER LIFE. Am. Textile Reptr. 72: 47, 49, 89 (Aug. 21, 1958). (4055)

Mill studies on traveler life are analyzed from a managerial, economic, and mechanical viewpoint.

PIECE WORK RATES IN THE RING SPINNING ROOM. K. Franke. Textil-Praxis 13, No. 4: 348-351 (1958). In German. Through BCIRA 38: 554 (1958). (4056)

The problem of piece work rates in ring spinning is discussed, with reference to four different possibilities of their calculation: per length, per weight, combination of both (e.g. in the case of shift work), and per work load.

YARNS B 5

ON THE PHYSICAL PROPERTIES OF RAYON AND NYLON 66 TIRE CORDS AT ELEVATED TEMPERATURE. F. R. Charles and C. Tarzi (Industrial Cellulose Research Ltd). Textile Research J. 27: 797-804 (Sept. 1958). (4057)

Currently produced rayon and nylon tire yarns, gray cords, and dipped cords (the nylon dipped cord having been Kidde treated, hot-stretched, and heat-set) were tested for reversible physical properties at 70°, 100°, 220°, and 300° F. Tables. Graphs. Photographs. 9 references.

FIBER DIMENSIONS AND SOME PROPERTIES OF STAPLE VISCOSE YARNS. H. P. Stout (Brit. Jute Trade Research Assoc.). J. Textile Inst. 49: P472-P489 (Sept. 1958). (4058)

A study has been made of the effect on yarn properties of blending together viscose fibers having different lengths and deniers. The yarns were spun on the jute system and included fibers ranging from 1 in. to 8 in. in length and from 4-1/2 to 50 in denier. Among the properties affected are levelness, strength, extension at break, hairiness, and resistance to abrasion. Tables. Graphs. Photomicrographs. 10 references.

CORD FORMERS FOR RAYON AND NYLON TIRE CORD. H. Schrader. Skinner's Silk & Rayon Record 32: 1052-1053 (Oct. 1958). (4059)

The AC-cord forming system (developed by Algemene Kunstzijde Unie NV) is based on the one-spindle principle and cord forming is done by reciprocal cabling of the single ends. AC1 and ACO machines based on the principle are described. Diagram. Photographs.

STUDY OF SOME FACTORS AFFECTING THE PULLING OF RAGS. PART 5. C. D. Meyer and P. P. Townend. Textile Mfr. 84: 447-448 (Sept. 1958). (4060)

In the concluding part of these investigations, the effect of the percentage fiber in a shoddy on the strength of the spun yarn is discussed. For previous parts see abstr. 22, 440, 785, and 2430/58. Graphs. Tables. 2 references.

PROPERTIES AND USES OF SOME TERYLENE POLYESTER CORE-SPUN YARNS. P. T. Standring and K. J. Westrop (Imp. Chem. Inds. Ltd). J. Textile Inst. 49: P453-P471 (Sept. 1958). (4061)

This paper describes the use of cotton/Terylene filament core-spun yarns for industrial applications. A new approach is presented in which the object is to provide a Terylene high-tenacity filament core with the surface properties of a cotton yarn. Fabrics woven from such yarns can be proofed and coated without the use of special techniques normally required for 100% Terylene filament fabrics. Tables. Graphs. 13 references.

RADIAL DISTRIBUTION OF FIBERS IN BLENDED YARNS. PART 1. CHARACTERIZATION BY A MIGRATION INDEX. J. B. Hamilton (Courtaulds Ltd). J. Textile Inst. 49: T411-T423 (Sept. 1958). (4062)

A method is described whereby any preferential radial distribution of a particular fiber component in a blended yarn, relative to the yarn axis, may be measured and represented by a single numerical parameter, termed the "migration index." The migration index is based on zoned fiber counts taken on a suitable number of yarn cross-sections (50 has been found to be adequate for normal purposes) and expresses the actual migration of the component in terms of the maximum possible which could have occurred in the given yarn. Tables. Diagrams. 5 references.

GEOMETRY OF TWISTED MULTIFILAMENT STRUCTURES. G. J. Stansfield. Brit. J. Appl. Phys. 9, No. 4: 133-139 (1958). Through BCIRA 38: 514 (1958). (4063)

A self-consistent geometry of cords made from multifilament yarns is derived from the assumption that all filaments in a cord follow an epihelical path. This path is defined mathematically using a definition of ply twist not considered before, which leads to simpler formulas than those developed by previous workers. Formulas for changes in ply length, ply twist, and cord length on cording are derived which enable the retraction of cords and yarns on twisting to be predicted accurately. An experimental method of cord twisting is described which enables a simple experimental verification of this theory of twist to be carried out.

RECENT DEVELOPMENTS IN LOFTED ACETATE YARNS FOR APPAREL AND HOME FURNISHING FABRICS. PART 1. APPAREL FABRICS. PART 2. LOFTED CARPET YARNS. R. E. Semmler (Eastman Chem. Prods. Inc.), and R. F. Dyer, R. C. Forrester, and W. G. Faw (Tenn. Eastman Co.). Textile Research J. 27: 761-768 (Sept. 1958). (4064)

Acetate rayon yarns in which textured effects obtained by the formation of crunoidal loops, e.g. lofted Estron and Chromspun, are discussed. Their physical properties and their use in carpets and fabrics are described. Graphs. Diagrams. Tables. Photomicrographs.

MODERN TIRE CORD TWISTING PROCESSES. PART 1. M. Michelitsch. Melliand Textilber. (English ed.) 39, No. 3: 160-165 (1958). (4065)

Ring twisting, combined uptwisting and downtwisting, and direct cabling are described. Diagrams. Photograph.

FABRIC PRODUCTION C

WARPING, SLASHING, YARN PREPARATION C 1

TECHNIQUE OF TWISTING-IN NYLON AND TERYLENE WARPS. I. Laird. Textile Mfr. 84: 500-503 (Oct. 1958). (4066)

This article describes a method in which hand twisters-in can twist the strongest yarns by using special scissors or cutters to cut the ends immediately before twisting. The usual method of twisting-in is described in detail, and the modifications suggested are explained. Photographs. Diagrams.

SLASHER SIZING DACRON FILAMENT YARNS. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Oct. 1958. 5 p. Bull. D-101 (replaces Bull. D-61). Free. (4067)

A summary of information on the sizing and afterwaxing of warps for broad woven fabrics.

HIGH EFFICIENCY WARPING MACHINES. W. T. Swatek. Reyon, Zellwolle u. Chemiefasern 8, No. 5: 376-378; No. 6: 441-444 (1958). In German. Through BCIRA 38: 528 (1958). (4068)

The construction of the standard design of the Benninger warping machine is described. Various models of this machine (ZAS, ZAL, ZAT) are available for fine, medium, and coarse material.

DEVELOPMENTS IN CONE-WINDING STRETCH YARNS. Schweiter Ltd. Textile Weekly 58(2): 209-210 (July 25, 1958). (4069)

The Monofil-Coner KEK-PN has a special yarn delivery arrangement, allowing yarn speeds of 330-440 yd/min. Tension on the highly elastic yarn is almost nil, and oiling can take place if desired prior to the tensioning device. Buildup of the bobbin is done by precision wind to a pineapple cone. Features of the Monofil-Coner and Vario-Coner KM (for yarn buildup by wild wind) are described. Photographs. Diagram.

HIGH-SPEED PIRN WINDING. Schärer Maschinenfabrik. Textile Weekly 58(2): 497-498 (Aug. 29, 1958). (4070)

Features of the Schärer fully automatic HHBEV-CF and the semi-automatic BNSV are noted.

QUALITY CONTROL IN BEAMING. H. Stanier & Co. Ltd. Textile Recorder 76: 188, 191 (Oct. 1958). (4071)

The HS yarn tensioning and stop motion device is adaptable for fitting to all types of jack and magazine creels and can be used in conjunction with both direct and indirect beaming. Its construction and operation are described.

QUALITEX THREAD CLEARER. E. Schenkel and H. Guttler. Textil-Praxis 13, No. 3: 256-260 (1958). In German. Through BCIRA 38: 527 (1958). (4072)

The Qualitex thread clearer (Electronische Apparatenfabriek Qualitex), for mounting on winding machines, scans the yarn cross-section in a high frequency alternating field and, in the case of thick places, produces thread-breakage by means of a cutting device. The response of the apparatus depends upon winding speed and the adjusted degree of sensitivity, as well as its reactivity to yarn defects.

PLANNING WINDER PRODUCTION. M. Havinoviski. Textile Inds. 122: 178-179, 185 (Oct. 1958). (4073)

In the method described a board is used which lists vertically all the basic yarns required for current production on all machines, and lists horizontally their individual daily requirements (in terms of full cans or trays). A sample board is shown.

WEAVING C 2

HUNT LETOFF. Southern Loom Develop. Co. Modern Textiles Mag. 39: 51 (Oct. 1958). (4074)

The Hunt letoff is a positive letoff and revolves the beam by mechanical means. It is claimed to produce cloth free from waviness and to greatly reduce set marks. Data on plant use are presented.

GROB ELECTRIC WARP STOP MOTION. Grob & Co. Ltd. Textile Weekly 58(2): 371-372 (Aug. 15, 1958). (4075)

Special features of the Grob KFW 1000 for silk and the KFW 1100 for cotton are described. Diagrams. Photographs.

SHUTTLE MOVEMENT AND ITS EFFECT ON THE INTERFERENCE-FREE WEAVING PROCESS. O. Reiter. Textil-Praxis (English ed.) No. 3: 115-119 (Sept. 1958). (4076)

The mechanisms of the Sulzer, Kovo, and Fayolle and Ripamonte shuttleless looms and their advantages as compared with the classical loom are discussed and causes of faulty shuttle movements and their elimination by correct maintenance and preparation of the loom and continuous control of the loom movements are pointed out.

PROBLEMS CONFRONTING THE WEAVING INDUSTRY. PART 1. COST ESTIMATING. Textile Weekly 58(2): 139-140, 144, 170 (July 18, 1958). (4077)

Methods for calculating costs for wages and overhead are described.

PROBLEMS CONFRONTING THE WEAVING INDUSTRY. PART 2. ALLOCATIONS OF COSTS TO CLOTHS. Textile Weekly 58(2): 219-221 (July 25, 1958). (4078)

Methods of apportioning overheads or expenses to cloths or groups of cloths are described.

PROBLEMS CONFRONTING THE WEAVING INDUSTRY. PART 3. PRACTICAL WEAVING CONTROL. Textile Weekly 58(2): 329-330, 333 (Aug. 8, 1958); 369-370 (Aug. 15, 1958). (4079)

The problems arising from the installation of automatic looms and the use of double and triple shifts are discussed. Loom distribution is also considered.

PROBLEMS CONFRONTING THE WEAVING INDUSTRY. PART 4. SALES DEVELOPMENT AND RESEARCH. Textile Weekly 58(2): 438-439, 441 (Aug. 22, 1958). (4080)

PROBLEMS CONFRONTING THE WEAVING INDUSTRY. PART 5. FINANCIAL CONSIDERATIONS. Textile Weekly 58(2): 507-508 (Aug. 29, 1958); 563-564 (Sept. 5, 1958). (4081)

LARGE WEAVING SHEDS WITHOUT COLUMNS. J. Geiger. Textil-Praxis (English ed.) No. 3: 120-122 (Sept. 1958). (4082)

A method for designing unsupported concrete floors free of vibration is described.

WEAVING OF TERRY TOWEL FABRICS. PART 7. H. Barlow. Textile Recorder 76: 110-112 (Oct. 1958). (4083)

The operation of the letoff motion and weft replenishing mechanism on the Northrop automatic terry towel magazine is described. Diagrams.

PIERON VERDOL DOUBLE LIFT OPEN SHED JACQUARD MACHINE. W. Riesnert. Textil-Praxis 13, No. 4: 372-375 (1958). In German. Through BCIRA 38: 528 (1958). (4084)

The new Verdol double lift jacquard machine makes it possible to leave the individual warp threads, during several successive picks, in raised or lowered position for as long as required for the respective weave, and to move, within two picks, only the warp threads whose weave changes. In addition to the reduced wear of the harness and other advantages, the speed of the loom can be considerably increased. Constructional details and mechanism of the new machine are described.

PREVENTION OF WEFT BARS BY CORRECT SETTING OF CLOTH BEAM REGULATORS ON BUCKSKIN LOOMS. P. J. M. Van Gorp. Tex 17, No. 1: 57-65; No. 5: 684-688 (1958). In Dutch. Through BCIRA 38: 528 (1958). (4085)

EVALUATION OF AUTOMATIC LOOMS. A. Gasser. Textil-Praxis 13, No. 3: 269-274 (1958). In German. Through BCIRA 38: 528 (1958). (4086)

Factors to be considered in the efficiency evaluation of automatic looms are discussed, with special reference to the single-shuttle automatic loom, the 4-color automatic loom, automatic looms for weaving continuous filaments, and the mechanism of some devices on the Rüti B-type automatic loom.

WARP TENSION DEVICE. H. Emmrich. Textil-Praxis 13, No. 3: 267-269 (1958). In German. Through BCIRA 38: 528 (1958). (4087)

The simple warp beam regulator described can be mounted on all types of existing looms.

TWO-COLOR AUTOMATIC SHUTTLE-CHANGE ATTACHMENT "MERVEILLE" FOR PICK ORDERS 1:1, 2:2, 4:4, AND MIXED CHANGE WITH THREE REVOLVING SHUTTLES. O. Schöneberg. Melliand Textilber. 39, No. 3: 263-267 (1958). In German. Through BCIRA 38: 465 (1958). (4088)

The automatic shuttle-changing mechanism described can be mounted on almost all types of looms with drop-boxes on both sides, the principles of automatic shuttle changing and the individual mechanical processes are explained on a normal buckskin crank loom. The change is effected by mechanical slide- or impulse-feelers or by photoelectric weft control means.

FUNDAMENTALS OF LENO DESIGNING. PART 3. E. B. Berry (N. C. State Coll.). Textile Bull. 84: 113-118 (Sept. 1958). (4089)

The construction of one of the most difficult leno weaves, the Boston Leno or Spanish Marquisette, is described. Also discussed are the clip spot leno weave, the two-cross-two weave, mock leno, and no doup leno, among many other details of leno weaving. Diagrams.

TIPS ON SETTING, TIMING, AND MAINTAINING PICKING MOTIONS. C. West. Textile Bull. 84: 111-112 (Sept. 1958). (4090)

FORCE-TIME RELATIONS DURING SHUTTLE PROJECTION. PART 1. EQUATIONS OF MOVEMENT. M. G. Catlow (Shirley Inst.). J. Textile Inst. 49: T424-T436 (Sept. 1958). (4091)

Previous work on the theory of cam-operated picking mechanisms has suggested that the force on the picking stick during the shuttle acceleration period could be considerably reduced by using, instead of the traditional type of nominal movement, the time of operation of which is fixed by the elasticity and mass of the system, an improved form designed to act for a longer time. Further corrections are applied to the theory of both movements to take into account the variation in the elastic properties of the system and the fall in cam-shaft speed during picking. Photograph. Graphs. 10 references.

FORCE-TIME RELATIONS DURING SHUTTLE PROJECTION. PART 2. COMPARISON OF THEORETICAL AND EXPERIMENTAL RESULTS. M. G. Catlow (Shirley Inst.). J. Textile Inst. 49: T437-T454 (Sept. 1958). (4092)

Part 2 deals with the experimental determination of the force applied at the top of the picking stick by means of resistance strain gage technique and the comparison of theoretical and experimental results. Tables. Graphs. Photographs. 3 references.

KNITTING C 3

WARP KNITTED CUT-AND-SEW LIFELON STOCKINGS. Taylor-Woods Ltd. Textile Weekly 58(2): 937-938, 942 (Oct. 10, 1958). (4093)

The knitting of Lifelon stockings on the new German Liba 3-bar warp machines is described. By the use on the Liba 2-bar bearded needle machine of a third split bar in front of the other two, the reinforcing sections of the hose can be plated on instead of knitted separately and inserted later. Photograph.

AUTOMATIC LOOPING ATTACHMENT. AMSL Corp. Hosiery Trade J. 65: 86-87, 91 (Oct. 1958). (4094)

The AMSL (automatic micro safety looping) attachment and its operation are described in detail. Diagrams.

MAXIM R74 DOUBLE CYLINDER HOSIERY MACHINE. I. R. Thornton. Hosiery Trade J. 65: 62-64 (Aug. 1958). (4095)

Although intended primarily for 3-color jacquard or combined jacquard and links-links patterned footwear, the R74 can also produce plain, ribbed, or links-links patterned socks using one, two, or three feeds, 2-color jacquard, or a combination of 2-color jacquard with links-links. Its construction and operation are described. Photographs.

TRENT TS WRAP STRIPE HALF-HOSE MACHINE. Trent Eng. Co. Ltd. Hosiery Times 31: 17, 19 (Sept. 1958). (4096)

The main features of the twin cylinder machine are its wide patterning potential, ease of pattern change, and simplicity of mechanism. Photographs. Diagram.

FIT OF 1 x 1 RIB FABRICS KNITTED FROM BLENDED YARNS. T. S. Nutting (Hosiery & Allied Trades Research Assoc.). J. Textile Inst. 49: P490-P505 (Sept. 1958). (4097)

Measurements of width, initial modulus (width extension), and load to extend a fabric 50% in width, were made on 1 x 1 rib fabrics constructed from blended yarns. Yarns used were composed of Ardil, Terylene, Orlon, and nylon blended with wool. The fabrics were tested after being subjected to various treatments. It is suggested that the torsional rigidity of the yarns and the stress relaxation properties of the fabrics in water at various temperatures play an important part in the dimensional and widthways elastic properties of the fabrics. Tables. Graphs. Diagrams. 10 references.

WRAP STRIPE PATTERNING ON HALF-HOSE WITH TRENT DOUBLE CYLINDER MACHINE. I. R. Thornton. Hosiery Trade J. 65: 108-109 (Sept. 1958). (4098)

SYSTEMATIC ANALYSIS AND ELIMINATION OF FAULTS IN KNITTING INTERLOCK AND EYELET FABRICS. K. Mamnicki. Hosiery Trade J. 65: 73-75 (Oct. 1958). (4099)

The article includes a table listing the possible faults, causes, and remedies in interlock and eyelet fabrics, together with a brief discussion of each fault.

CELLULAR FABRICS FOR UNDERWEAR. J. B. Lancashire. Hosiery Trade J. 65: 70-73 (Sept. 1958). (4100)

Warp and weft knitting techniques are described. Diagrams. Photographs.

TIPS FOR USING LUREX METALLIC YARN IN WARP, CIRCULAR, AND FLAT-BED KNITTING. Dow Chem. Co. Textile Inds. 122: 203, 205-206 (Oct. 1958). (4101)

HOW TO KNIT SAABA YARNS. C. J. Dudzik (Universal Winding Co.). Modern Textiles Mag. 39: 53-54 (Oct. 1958). (4102)

SOME LESS COMMON ASPECTS OF WARP KNITTING. J. B. Lancashire. Hosiery Trade J. 65: 78-81 (Oct. 1958). (4103)

KNITTING QUALITY CONTROL. W. A. Dutton (Hosiery & Allied Trades Research Assoc.). Hosiery Times 31: 23-31 (Aug. 1958). (4104)

The reason for the need for quality control in knitting and the techniques available are discussed.

SURVEY OF RECENT KNITTING MACHINERY DEVELOPMENTS IN GREAT BRITAIN AND EUROPE. J. B. Lancashire. Knitter 22: 27-31 (Oct. 1958). (4105)

DUBIED WEVENIT A24 JACQUARD MACHINE. Dubied Co. Hosiery Trade J. 65: 82-85 (Oct. 1958). (4106)

The features and operation of the Wevenit A24 latch needle circular machine for knitting rib jacquard fabrics are described. Photographs. Diagrams.

FAULTS IN WARP KNITTED FABRICS. PART 5. DEFECTS FOUND IN FINAL INSPECTION. Hosiery Trade J. 65: 78-80 (Sept. 1958). (4107)

Faults discussed include snags, distortion during pinning, creases, dyeing defects, scorching, incorrect width and yield, and stiffness.

TERMINOLOGY OF DOUBLE JERSEY. Hosiery Trade J. 65: 76-77 (Aug. 1958). (4108)

The confusion in terminology for double jersey fabrics and the various names used to describe the fabrics are discussed. Diagrams.

FABRICS C 4

DEVELOPMENT AND EVALUATION OF COATED 3.5 OUNCE NYLON TWILL, LOW COUNT. J. Naimer and R. Briganti. U. S. Bureau of Supplies & Accounts. Aug. 1957. 14 p. Order from Office of Technical Services, Washington 25, D. C. 50¢. PB 131 535. (4109)

A low count nylon twill fabric was developed and evaluated as a replacement for the 3-oz nylon twill used in A-1 cold weather clothing. Test results on both the base and neoprene coated low count fabrics showed greatly improved tear strength indicating increased durability for the clothing. Field trials confirmed functionability and increased service life. Tables.

DEVELOPMENT AND EVALUATION OF WEBBING MADE FROM NYLON 6. R. J. Neff (Phoenix Trimming Co.). Wright Air Develop. Center, Wright-Patterson Air Force Base, Ohio. Mar. 1958. 46 p. WADC tech. report 57-538. (4110)

Webbings manufactured from regular 210 denier type 6 nylon have slightly lower breaking strength and were susceptible to heat degradation at lower temperature than webbings utilizing type 66 nylon. Webbings using a type 6 modified 840 denier yarn appeared to be equal in strength and superior in their resistance to heat degradation up to a temperature of 300° F.

NYLON PRESS CLOTHS. Brit. Nylon Spinners Ltd. Textile Weekly 58(2): 166 (July 18, 1958). (4111)

Test results on nylon press cloths treated with a tannic acid/formaldehyde finish indicate that the finish increases the life of the cloth three times.

NONWOVEN FABRICS IN ONE STEP. H. D. McCall (Midland-Ross Corp.). Textile Inds. 122: 160-163 (Oct. 1958). (4112)

A single unit is described, for use in the random web process, in which web forming, latex saturating, drying, curing, and winding are combined. Photographs. Diagram.

BRITISH MULTIPURPOSE MACHINE FOR NONWOVEN FABRICS. A. E. Callaghan (A. E. Callaghan & Son Ltd). Textiles in Ind. 3: 80-82 (Oct. 1958). Textile Merc. 139: 441-443 (Sept. 26, 1958). (4113)

The fiber amalgamating machine described produces nonwoven fabrics and felts from practically every form of fiber. It is a 3-unit assembly comprising an automatic hopper feed, opening, teasing, and precarding section, and a randomized formation unit. Photographs.

USE OF THE SHRINKAGE PROPERTIES OF STRETCHED VINYLIC FIBERS IN BLENDS. J. M. Alibert (Soc. Rhovyl). J. Textile Inst. 49: P506-P514 (Sept. 1958). (4114)

The paper covers the developments since 1952 of yarns and woven and knitted fabrics containing various percentages of vinylic fibers (Rhovyl, Fibravyl) blended with natural and with manmade fibers. The fabrics described include uniform cloths, car-top fabrics, and knitted fabrics (Intervyl, Rhovenyl). Graphs. Tables.

TECHNOLOGY OF TUFTING. Man-Made Textiles 35: 62, 64 (Sept. 1958). (4115)

The principles involved in the manufacture of carpets on the tufted carpet machine are outlined, and the method of operation described in detail. Diagrams.

DEVELOPMENTS IN LUREX YARNS. Dobeckmun Ltd. Fibres 19: 281-282 (Sept. 1958). (4116)

Lurex yarns available in colored finishes are described and their range of use is discussed, with special reference to their growing interest for the makers of tufted carpets.

WHAT YOU OUGHT TO KNOW ABOUT BUYING RUGS AND CARPETS. Consumer Repts. 23: 558-563 (Nov. 1958). (4117)

Carpeting should be judged on three major criteria: fiber, pile density and height, and workmanship. The consumer is told what to look for in buying carpets and rugs. Photographs.

MODERN CARPET MANUFACTURING. G. B. Angus (John Crossley & Sons Ltd). Textile Merc. 139: 210-211 (Aug. 8, 1958). (4118)

Some techniques used for dyeing, weaving, backsizing, and applying antisoil finishes are briefly described.

URETHANE FOAM IN TEXTILE USES. Am. Textile Reptr. 72: 21-22, 44-45 (Oct. 16, 1958). (4119)

End uses of polyurethane foam affecting the textile raw materials and fabrics industry are discussed.

CONTINUOUS FORMING OF FIBROUS MAT. P. E. Fuerst. Modern Plastics 36: 115-117, 120-122, 209 (Oct. 1958). (4120)

A new process for continuously forming fibrous mats, with or without fillers, resins, and other additives, is described for making the cores of high-pressure decorative laminates. Composite mats containing 60 to 80% glass and 40 to 20% kraft or other cellulosic fibers can be used to make polyester laminates with strength properties about equal to those using only glass reinforcement, but with appreciable savings in the weight of the finished laminate and the cost of the reinforcement. Diagrams. Graphs. Tables. 5 references.

ARNEL/DACRON WASH-AND-WEAR FABRICS. H. F. Elsom and T. W. Westarp (Celanese Corp.). Modern Textiles Mag. 39: 40-44 (Oct. 1958). (4121)

Typical wash-and-wear constructions of Arnel/Dacron/cellulose are described, and the effects of blend ratio on yarn strength and the effect of temperature on dye distribution are discussed. Graphs. Table.

COMPLEX YARNS AND SIMPLE WEAVES. A. Johnson. Textile Mfr. 84: 493-496 (Oct. 1958). (4122)

Methods of achieving interesting and varied surface effects by exploiting the different properties and qualities in effect threads are explained. Photographs.

NEW FIBER LABELING LAW. S. Gotshal. Modern Textiles Mag. 39: 32, 62-63 (Oct. 1958). (4123)

The Textile Fiber Products Identification Act requires identification on labels of all constituent fibers of the textile fabric, listing them in the order of predominance by weight and showing the corresponding percentage by weight of each fiber. A brief summary of the major provisions of the law is presented.

CONCEPTION OF COLOR AND DESIGN IN MODERN TEXTILES. F. E. Ellis. Textile Mfr. 84: 476-479 (Sept. 1958). (4124)

The principles which govern color and design in fabrics are explained.

WOVEN FABRIC STRUCTURE: PLANNING SATEEN DERIVATIVES. PART 2. D. C. Snowden. Man-Made Textiles 35: 47 (Sept. 1958). (4125)

PEEPHOLE BOX FORECASTS APPEARANCE OF FABRIC OF COLORED YARNS. A. R. Margary. Skinner's Silk & Rayon Record 32: 1043 (Oct. 1958). (4126)

Basically the device consists of a box, with a peephole at one end, containing a mirror on which a weave pattern has been marked, and two cards, one on which the threads intended for the warp are wound and one for the threads intended for the weft. Photographs.

ELEMENTARY TEXTILE DESIGN. J. C. Hubbard, Jr. and J. V. Walters. School of Textiles, Clemson Agri. Coll., Clemson, S. C. 1958. 79 p. Available from the Clemson Coll. Book Store, Clemson, S. C. $1.50. (4127)

The elements of textile design are discussed under the headings: the loom, the basic twill weave, the basic satin or sateen weaves, weaves derived from the plain weave, weaves derived from the regular twills, weaves derived from the regular sateens, special weaves, and designing and setting shedding cams. Diagrams. Colored plates.

RELATIONSHIP BETWEEN FABRIC APPEARANCE, THE CB(L), AND THE CB(F) CHARACTERISTICS. W. Wegener and H. Peuker. Textil-Praxis 13, No. 3: 261-267; No. 4: 365-371 (1958). In German. Through BCIRA 38: 541 (1958). (4128)

After having dealt with the importance and practical determination of the CB(L) curve, the authors discuss the relationship between the length-variation characteristics of the yarn (from two spinning processes), the surface characteristics of the fabric and the appearance of the fabric. The surface variation CB(F, f) confirms the indications obtained from the length-variation behavior of the yarn and is directly related to the fabric appearance (variable weft irregularity, constant warp irregularity). A fabric surface F can be resolved into corresponding weft yarn lengths L_1, and suitable correlation of F and L_1 leads to empirical determination of the ideal fabric regularity. Yarn imperfections were determined quantitatively and the dynamometric properties of the yarns obtained in both processes examined. 125 references.

PILLING: CAUSES, METHODS OF CONTROL, AND TESTING. E. Brunnschweiler. Ciba Rev. 11: 34-36 (Sept. 1958). (4129)

DESIGN IN WOVEN STRUCTURE. PART 66. FIGURED DESIGNS (continued). D. C. Snowden. Wool Rev. 32: 31, 33 (July 1958). (4130)

DESIGN IN WOVEN STRUCTURE. PARTS 68 AND 69. FIGURING IN WARP AND WEFT HAIRLINES. D. C. Snowden. Wool Rev. 32: 34-35 (Sept. 1958); 40-41 (Oct. 1958). (4131)

FINISHING AND CHEMICAL PROCESSING D

FINISHING STOCKINGS MADE FROM CRIMPED CONTINUOUS FILAMENT NYLON YARN. Brit. Nylon Spinners Ltd. Hosiery Times 31: 37, 39 (Aug. 1958). (4132)

Recommendations for relaxation, preboarding, dyeing, pressing and trimming, and postboarding procedures are given.

COTTON PLUSH FINISHING. Textile Weekly 58(2): 393-394, 396 (Aug. 15, 1958). (4133)

Procedures for desizing, dyeing, printing, and rendering the pile soft and fluffy are described.

STOCKING BOARDING MACHINES: CABINET- OR BELL-SYSTEM? F. Fourné. Textil-Praxis (English ed.) No. 3: 122-124 (Sept. 1958). (4134)

The two machine constructions are compared to show that, as regards the quality of the stockings, preference is to be given to the bell-fixing machine. 5 references.

MONFORTS-REACTOR. A. Monforts Maschinenfabrik. Textile Merc. 139: 298-299 (Aug. 29, 1958). (4135)

The Monforts-Reactor is suitable for continuous open-width bleaching, continuous open-width desizing, aging in continuous dyeing processes, and aging of prints in the 2-stage process. Its construction and operation are described. Photograph. Diagram.

NEW NYLON CARPET TEXTURES. I. R. Needle and M. Romer (Industrial Rayon Corp.). Modern Textiles Mag. 39: 55-58 (Oct. 1958). (4136)

The skein heat setting method for obtaining frieze, shaggy, or Saxony textures and the twist and knit methods for obtaining poodle or caracul textures are described. Photographs.

INSTRUMENTS IN TEXTILE FINISHING. G. Bercsenyi (Budapest Textile Research Inst.). Dyer 120: 483-487 (Sept. 26, 1958). (4137)

The article reviews various instruments of practical value in the textile finishing industry developed at the Budapest Textile Research Institute. Included are the Univerfot and Infra-Ultrameter for measuring changes in whiteness during storage, an instrument for measuring heat absorption capacity, dyeometer for measuring changes in dye concentration, and a polarograph for studying starch decomposition.

HOSIERY BOARDING AND FORM-INSERTING APPARATUS. Mauney Hosiery Mills. Textile Inds. 122: 199-200 (Oct. 1958). (4138)

The mill-made machine described combines the boarding, inserting, and transferring operations, resulting in a saving of seven cents per dozen. Photographs.

FINISHING MACHINERY DEVELOPMENTS. Textile Weekly 58(2): 697-698 (Sept. 19, 1958). (4139)

Features of the Mather and Platt 6-color printing machine, 6-cylinder vertical dryer, and MC 2-bowl padding mangle, the Riley RF2 36-roller raising and felting machine, the Sanderson VB setting machine for acrylic slivers and yarns, and the Olivetti photoelectric pantograph are briefly described.

TENSION (STRETCHING) IN RELATION TO THE PROPERTIES AND PROCESSING OF TEXTILES. A. J. Hall. Textile Recorder 76: 112-114 (Oct. 1958). (4140)

The application of tension to textile fibers (with consequent stretching) can affect the properties of the fibers and their behavior during dry and wet processing. Examples are given to show the effects of tension on fiber properties, weaving, dyeing, and scouring.

CHEMICAL PROCESSES D 1

UVITEX OPTICAL BRIGHTENERS FOR SYNTHETIC FIBERS. G. Dürig. Ciba Rev. 11: 41-42 (July 1958). (4141)

The suitability of Uvitex agents for polyamide, polyester, acrylic, and acetate rayon fibers is discussed.

RAYON SCOURING AND BLEACHING. Man-Made Textiles 35: 49, 51 (Sept. 1958). (4142)

Recommendations for bleaching viscose rayon with peroxide, perborate, sodium chlorite, and fluorescent agents are given.

ECONOMICS OF THE CONTINUOUS PEROXIDE BLEACHING PROCESS AS AGAINST THE PRESENT KIER METHOD. M. Shah (Phoenix Mills Ltd, Bombay). Textile Dig. 18: 199-204 (Oct.-Dec. 1957). (4143)

CALGON IN BLEACHING. K. Schuster and J. Umlauf. Textil-Praxis (English ed.) No. 3: 134-139 (Sept. 1958). (4144)

The application of Calgon to hypochlorite, peroxide, and chlorite bleaching is discussed. Its usefulness in conjunction with optical bleaching agents and for fiber protection, prevention of calcium and magnesium silicate formation, and stain formation is pointed out. Graphs.

CYCLIC ETHYLENE UREA OR IMIDAZOLIDONE. J. T. Marsh. Textile Mfr. 84: 527-529 (Oct. 1958). (4145)

The structure and reactivity of dimethylol cyclic ethylene urea are described and its use in the creaseproofing of cellulose is compared with urea formaldehyde.

DEVELOPMENTS IN SODIUM CHLORITE BLEACHING. F. Schmidt. Textil-Praxis 13, No. 3: 298-304 (1958). In German. Through BCIRA 38: 529 (1958). (4146)

New developments are reviewed, with special reference to the respective machinery and small-scale bleaching installations operating continuously at very low costs.

BLEACHING OF CARD SLIVERS. O. Müller. Melliand Textilber. 39, No. 4: 399-404 (1958). In German. Through BCIRA 38: 529 (1958). (4147)

Bleaching of cotton and rayon staple fiber slivers, the necessary equipment, and the bleaching methods generally used are described, with special reference to high temperature bleaching of pure cotton.

BLEACHING EFFICIENCY TESTING. Heinz Mahlo. Textile Weekly 58(2): 146, 166 (July 18, 1958). (4148)

With the BMK instrument it is possible to measure the degree of whiteness and the degree of bleaching on both the dry and wet fabric. In addition it is also possible, by measuring the unbleached fabric, to determine the maximum degree of whiteness obtainable by full bleaching.

BATES CONTINUOUS KNITWEAR BLEACHING PROCESS. Bates Textile Mach. Co. Dyer 120: 551 (Oct. 10, 1958). (4149)

The main feature of the process is that although accumulation of fabric, up to some hundreds of yards, must at some time be kept as a sort of floating stock while the bleaching takes place, the fabric is subjected to constant agitation as in a winch machine, while a steady continuous flow forward is maintained.

DEVELOPMENTS IN SODIUM CHLORITE BLEACHING. F. Schmidt. Textil-Praxis (English ed.) No. 3: 125-128 (Sept. 1958). (4150)

Features of a sodium chlorite bleaching plant constructed by Benteler Werke AG are described. Diagrams.

BRITISH TEXTILE CHEMICALS. PART 1. Skinner's Silk & Rayon Record 32: 958-959 (Sept. 1958). (4151)

Alphabetical list of British textile chemicals which have appeared on the market in the past year.

EXAMINATION OF NO-IRON SHIRTS BY WEAR AND LAUNDERING TESTS. W. Krefeld. Textil-Praxis 13, No. 4: 393-396 (1958). In German. Through BCIRA 38: 543 (1958). (4152)

Twenty-one shirts worn for one day (in an industrial district) were washed with a soap-based active detergent and then examined to determine the efficiency of the no-iron finish. It was found that light ironing is still required, and it is recommended that the term be changed to rapid-iron. The tests included: examination of the fabric structure, microscopical tests, tensile strength determination, staining reactions for examining the deposition of resins, and measurement of the crease resistance of shirts worn 10 times and washed.

APPLYING THE SI-RO-SET PROCESS TO WOOL. Fibres 19: 271-273 (Sept. 1958). (4153)

To produce a permanent crease in wool fabrics, all that is basically required is a means of spraying the goods with the solution prepared as instructed, and a means of hot-pressing them. Method and apparatus are discussed. Photographs.

CONDENSED PHOSPHATES IN TEXTILE FINISHING. K. Schuster. Textil-Praxis 13, No. 4: 387-393 (1958). In German. Through BCIRA 38: 529 (1958). (4154)

The chemical constitution and properties of polyphosphates (pyrophosphate, tripolyphosphate, metaphosphate) are discussed, with special reference to Calgon, its practical application and calcium- and metal-binding power, dispersing and peptizing properties, activation of soap and detergents, lowering of the cloud-point, emulsifying and emulsion-stabilizing properties, and adsorption-preventing action.

STRUCTURAL COMPACTNESS OF WOVEN WOOL FABRICS AND THEIR BEHAVIOR IN MODERN WASHING MACHINES. H. Bogaty, G. H. Lourigan, and H. E. Harris (Harris Research Labs.). Textile Research J. 28: 733-737 (Sept. 1958). (4155)

Commercial all-wool fabrics were subjected to physical analysis and to 10 consecutive mild launderings in a modern automatic home washing machine. Many fabrics exhibited low levels of shrinkage. The shrinkage of the fabrics of the same weave type is shown to be related to the cover factor of the cloth. A measure of compactness of fabric structure can be computed from the ratio of observed cover factor to the theoretically maximum weavable cover factor. This compactness ratio shows a good functional relationship to shrinkage in laundering for virtually all of the fabrics, irrespective of weave. This relationship indicates that a commercially acceptable fabric may be designed with respect to its compactness to give low levels of feltability in many repeated launderings.

USE OF RESINS AND SOFTENERS IN UPGRADING FABRICS. A. A. Cook. Am. Textile Reptr. 72: 43-45, 95 (Aug. 21, 1958). (4156)

The properties and uses of thermosetting resins and hand modifiers or softeners in textile finishing are discussed. Specific products are covered, and pertinent data and suggestions for their application are given.

BETTER LAUNDERING TECHNIQUES TO HELP SOLVE WASH-WEAR PROBLEMS. F. D. Lindsay (Maytag Co.). Am. Textile Reptr. 72: 13-14, 41-42 (Sept. 11, 1958). (4157)

On the basis of extensive tests done at the Maytag Company's Product Testing Laboratories, recommendations for the laundering and selection of wash-and-wear garments are given.

PRESSING AND DECATING MACHINERY. Kettling & Braun. Textile Recorder 76: 187 (Oct. 1958). (4158)

Features of the Universal luster decating and Planet-Automat decating machines are noted. Photograph. Diagram.

MERCERIZATION OF KNITTED COTTON GOODS UNDER TENSION. H. M. Ulrich. Melliand Textilber. 39, No. 4: 417-424 (1958). In German. Through BCIRA 38: 532 (1958). (4159)

ROTPROOFING TEXTILES AND DETERMINATION OF THEIR RESISTANCE TO CELLULOSE-ATTACKING MICROORGANISMS. W. Hausam and R. Rupp. Melliand Textilber. 39, No. 4: 429-433 (1958). In German. Through BCIRA 38: 534 (1958). (4160)

The resistance of textiles, finished with various practically water-insoluble preserving agents or their combinations, was examined. Various commercial water repellents were tested with respect to their effect on the action of the preserving finish. It is concluded that, in the case of lightweight fabrics, additions of 2% (dry weight) and, for heavy fabrics 1.5-2% of e.g., di-Cl-dioxydiphenylmethane, Raluben-Raschig + pentachlorphenol, Raluben-Raschig alone and, especially, tetrol-Raschig + pentachlorphenol (2:1) give sufficient protection, under normal climatic conditions, and with a suitable waterproofing finish.

CONDITIONING OF TEXTILE PACKAGES BY ATMOSPHERIC METHODS. Shirley Inst. Textile Merc. 139: 202-204 (Aug. 8, 1958). (4161)

The rate at which a package regains moisture depends upon the size, density, and shape of the package, the nature of the material, the temperature, and the average regain during conditioning. A method for estimating the time required for a given package based on these factors is described with examples. Tables. Graph.

MODERN JUTE MANUFACTURING PRACTICE: CHEMICAL FINISHING TREATMENTS. S. A. G. Caldwell. Textile Mfr. 84: 473-475 (Sept. 1958). (4162)

Developments in rotproofing, waterproofing, and fireproofing treatments are discussed, as well as processes for improving the handle and appearance of jute materials.

CHEMICAL REACTIONS WITH CELLULOSE FIBERS. J. Wegmann. Textil-Rundschau 13, No. 6: 323-325 (1958). In German. Through BCIRA 38: 532 (1958). (4163)

In this review, the author discusses the structure of cellulose fibers and reaction possibilities, reactions which lead to the destruction of the fibrous structure and to the formation of new chemical compounds, and reactions in which the fibrous structure is preserved. The latter group of reactions comprises partial chemical modification of the fibers to produce new properties such as rot resistance, swelling resistance, etc., to fix finishing agents chemically (shrinkproofing, waterproofing), and to obtain fast dyeings with reactive dyes which combine chemically with the fiber. 35 references.

STATIC ELECTRIFICATION OF TEXTILE GOODS AND USE OF ANTISTATIC TREATMENTS. B. C. M. Dorset. Textile Mfr. 84: 468-472 (Sept. 1958). (4164)

The author reviews the methods for testing the efficiency of antistatic agents or treatments, as well as substances and treatments which have been found effective as permanent antistatic finishes.

COATING METHODS. G. L. Booth. Modern Plastics 36: 91-95 (Sept. 1958); 90-99 (Oct. 1958). (4165)

Part 1 points out the importance of web coating to the plastics industry. It discusses and illustrates roll coaters, including reverse-roll, kiss, nip, gravure, bead, and dip coaters. Part 2 covers post-metering and smoothing devices, spray coaters, extrusion coaters, cast coaters, and calender coaters. It also includes a chart which shows how to approach the selection of a coating method to reach the desired end result. Diagrams.

STEAM-FINISHING OF ACRYLIC KNITWEAR AND KNITTED PIECEGOODS. Kurt Ehemann Spezialmaschinenfabrik GmbH. Textile Merc. 139: 95-96 (July 18, 1958). (4166)

The German Ehemann steaming tables SEA and E58 are described.

TITANIUM SOLVENT-TYPE COMPOUNDS IN REPROOFING. R. Sidlow. Dyer 120: 301-304 (Aug. 29, 1958). (4167)

During drycleaning the majority of waterproofing agents are removed by the solvent. In such cases a proof which can be applied from similar solvents is desirable for reproofing. The use of solvent-type waterproofing compositions based on titanium compounds plus paraffin wax is surveyed in this paper. The discussion is divided into 2 parts: (1) evaluation of hydrolytic stability of various titanium compounds and selection of suitable materials and (2) evaluation of the repellency obtainable by such compounds. Tables. 3 references.

SEWING THREAD LUBRICANTS. English Sewing Cotton Co. Textile Merc. 139: 211-212 (Aug. 8, 1958). (4168)

The effect of lubricants on variation in sewability, thread breakage, needle gumming and fusing, needle heat, and needle breakages is examined.

WATER PROBLEMS IN THE TEXTILE INDUSTRY. M. Kehren. Textil-Praxis 13, No. 4: 405-410 (1958). In German. Through BCIRA 38: 544 (1958). (4169)

The preparation and purification of water, and the use of complex formers and dispersing agents, especially Calgon, in textile finishing are discussed.

SOFTENERS FOR MANMADE FIBERS. G. Dürig. Ciba Rev. 11: 39-40 (July 1958). (4170)

Suitable Sapamine softening agents for polyamide, acrylic, polyester, copolymer, and acetate rayon fibers are listed.

PILLING OF FABRICS: WAYS AND MEANS OF ITS REDUCTION. PART 2. T. Belleli (Inst. Textile de France). Fibres 19: 274-279, 288 (Sept. 1958). (4171)

Some treatments which have been developed to reduce pilling, and in particular a soapy-water treatment for Orlon, are described. The development of a method of testing the tendency to pill of a fabric (described in part 1) enables comparative evaluations to be made of the treatments discussed. Graphs. Diagrams. Photomicrographs. Tables. 4 references.

CHEMICAL MODIFICATION OF COTTON: PROGRESS AND CURRENT STATUS. C. H. Fisher and F. S. Perkerson (So. Reg. Research Lab.). Textile Research J. 27: 769-778 (Sept. 1958). (4172)

This review covers the development of chemically modified cottons, properties, uses, manufacture, costs, and problems involved. Tables. 79 references.

INVESTIGATION OF SILICON COMPOUNDS AND DIBROMOPROPYL PHOSPHATES AS FLAME RETARDANTS FOR COTTON. PART 1. USE OF DIBROMOPROPYL PHOSPHATES AS FLAME RETARDANTS FOR COTTON. PART 2. INVESTIGATION OF SILICON COMPOUNDS AS FLAME RETARDANTS FOR COTTON FABRICS. J. D. Reid and others. U. S. Army. Quartermaster Research & Eng. Command. Textile, Clothing & Footwear Div., Quartermaster Research & Eng. Center, Natick, Mass. July 1957. 30 p. Order from Library of Congress, Photoduplication Service, Washington 25, D. C. Microfilm $3.00, photostat $6.30. PB 132 924. Textile series report no. 100. (4173)

In part 1, the preparation and some of the properties of mono-, bis-, and tris-dibromopropyl esters of phosphoric acid are described. The ammonium salts of mono- and bis-(dibromopropyl) phosphoric acid apparently form polymers with trimethylolmelamine having definite phosphorus-to-bromine ratios which change after curing on cotton cloth. These polymers have been formed on cotton fabric by application of the monomers to confer excellent flame- and glow-resistance properties on the cloth. In part 2, several silicon compounds, potentially capable of making durable finishes, were investigated as flame retardants for cotton. The compounds studied included polysiloxanes, acetoxysilanes, and silyloxy-phosphorus polymers. Tables.

CYANOETHYLATION OF COTTON IN AQUEOUS MEDIUM. N. M. Bikales and L. Rapoport (Am. Cyanamid Co.). Textile Research J. 27: 737-743 (Sept. 1958). (4174)

An investigation was made of the cyanoethylation of cotton using small quantities of acrylonitrile dissolved or dispersed in aqueous sodium hydroxide solution. As compared with conventional processes, the rate of reaction and the maximum degree of cyanoethylation were both found to be lower. The losses of acrylonitrile in side reactions were relatively small and approached the minimum obtainable in the best processes previously reported. A study of the physical properties of the product showed the importance of reaction conditions in determining the properties of cyanoethylated cotton. Graphs. Tables. 20 references.

SIMPLIFIED CONTROL ANALYSES OF SOLUTIONS USED IN PARTIAL ACETYLATION OF COTTON. E. M. Buras, Jr., A. S. Cooper, and M. D. Cruz (So. Regional Research Lab.). U. S. Agri. Research Serv., So. Utilization Research & Develop. Div., New Orleans, La. 1958. 15 p. ARS-72-11. Free. (4175)

Related analyses were developed for the rapid estimation of compositions of mixtures of acetic acid - acetic anhydride - perchloric acid and those of acetic acid - water - perchloric acid. The methods are rapid and seem applicable in cotton textile finishing plants where partial acetylation processing is conducted. Tables. Graphs. Diagrams. 12 references.

SOFTENER FOR NATURAL AND MANMADE FIBERS. M. A. Lynch (Union Carbide Corp.). Am. Textile Reptr. 72: 61, 70 (Aug. 21, 1958). (4176)

Results of tests made on XLE-48 by independent laboratories and cotton mills are presented.

DYEING AND PRINTING D 2

REACTIVE DYES LEAD TO NEW CONCEPTS OF DYEING. C. J. Weidmann (Ciba Co.). Am. Textile Reptr. 72: 25-27, 113 (Aug. 21, 1958). (4177)

The chemistry and properties of the Cibacron dyes and the methods used in applying them to cellulose are discussed.

COPPER COMPOUNDS IN DYESTUFFS CHEMISTRY. K. Menzie. Ciba Rev. 11: 14-21 (Sept. 1958). (4178)

The history of the use of copper salts in dyeing is traced.

PIGMENT DYES IN TEXTILE DYEING AND PRINTING. A. Permut. Tex 17, No. 1: 54; No. 2: 189-190; No. 3: 332; No. 4: 454-455; No. 5: 666; No. 6: 826 (1958). In Dutch. Through BCIRA 38: 531 (1958). (4179)

DYES. W. Happe. Reyon, Zellwolle u. Chemiefasern No. 6: 444-448 (1958). In German. Through BCIRA 38: 531 (1958). (4180)

In this review, the author discusses the physical nature of dyes, in general, and the chemical constitution of substantive, vat, developed, disperse, acid, and metal-complex dyes, with Remastral Blue FFRL, Indigo, Naphthol AS, Anthrasol Blue IBC, Cellitone Fast Blue FFR, Patent Blue V, and Irgalan (Cibalan, Ortolan, Remalan Fast) as their respective representatives.

RECENT DEVELOPMENTS IN THE APPLICATION OF AZOIC DYES. M. Hückel (Farbwerke Hoechst AG). J. Soc. Dyers Colourists 74: 640-647 (Sept. 1958). (4181)

The paper is concerned with recent knowledge of impregnation with Naphtol AS and of coupling conditions. Influence of the type of alkali in the impregnation bath on the dyeings and on the rate-of-absorption curves of various coupling components is discussed. The chemistry of the coupling of azoic combinations on vegetable fibers is outlined, and practical aspects of the buffering of the developing baths are considered. The base printing style also is briefly described. Tables. Graphs. 10 references. Abridged version of abstr. 1657/58.

REACTIVE DYES FOR CELLULOSE FIBER GOODS. B. C. M. Dorset. Textile Mfr. 84: 522-526 (Oct. 1958). (4182)

Following a summary of early progress in methods of dyeing cellulose fibers so that the dye becomes chemically combined with the fiber, the use of Cibacron and Procion dyes in large scale dyeing operations is described with pertinent patent and literature references.

DYEING: THEORY AND PRACTICE. PART 3. W. Postman (Ga. Inst. of Technol.). Dyestuffs 42: 232-239 (Sept. 1958). (4183)

Cellulose dyeing (direct, vat, and naphthol dyes) and wool dyeing (acid dyes and metal-containing dyes). 24 references.

DYEING NYLON/COTTON UNIONS. H. Stern and R. Gygax. Ciba Rev. 11: 39 (July 1958). (4184)

Dyeing methods for Cibacete, Chlorantine, Cibalan, and Cibanone dyes are noted.

PREVENTING BARRY DYEING OF WOVEN AND KNITTED NYLON FABRICS: DYES AND METHODS. H. Schenk and H. Stern. Ciba Rev. 11: 36-37 (July 1958). (4185)

NEW DATA FOR DYEING ACRYLICS. Chemstrand Corp. Man-Made Textiles 35: 53, 55 (Sept. 1958). (4186)

Recommendations are given for the use of the urea method in dyeing Acrilan and Acrilan/rayon and for high bulk hank dyeing.

VERSATILITY OF ORLON IN DYEING. B. F. Faris. Dyer 120: 593, 595 (Oct. 10, 1958). (4187)

The potential styling effects offered by Orlon and Orlon blends in cross-dyeing, shade reproducibility, printing, and finishing are outlined.

COLORING THE NEW FIBERS. Dyer 120: 123-129 (July 18, 1958); 258-266 (Aug. 15, 1958). (4188)

The reasons for the dye resistance of the new fibers are noted, and the progress made in modifying fibers to achieve increased dye affinity and in introducing new methods and dyes to overcome dyeing difficulties is reviewed. 6 references.

DYEING STRETCH NYLON TIGHTS IN THE HOSIERY DYE HOUSE. H. White (Lee Hosiery Finishers Inc.). Hosiery Underwear Rev. 41: 81-83, 96 (Oct. 1958). (4189)

LEVEGAL PAN AS LEVELING AGENT IN DYEING ACRYLONITRILE FIBERS WITH BASIC DYES. W. Beckmann. Reyon, Zellwolle u. Chemiefasern No. 6: 452-455 (1958). In German. Through BCIRA 38: 531 (1958). (4190)

An attempt is made to explain the difficulties encountered in leveling dyeings on acrylonitrile fibers (especially in the case of light shades) and their causes. The mechanism of cationic products as leveling assistants and the basis for the quantitative evaluation of the retarding action of Levegal PAN are discussed.

STATIC PROCESS STEVERLYNCK HIGH TEMPERATURE DYEING. B. Steverlynck. Dyer 120: 329, 331 (Aug. 29, 1958). (4191)

The principles upon which the Steverlynck machine are based are discussed, and the use of the integration method of dyestuff addition in conjunction with the machine is described.

DYEING CHEMICAL FIBERS BY THE HELIZARIN-F METHOD. G. Frerker and C. Petschik. Reyon, Zellwolle u. Chemiefasern No. 6: 449-452 (1958). In German. Through BCIRA 38: 530 (1958). (4192)

The principles of the method and the results obtained by its use are described, and directions are given for dyeing viscose and cuprammonium rayon, cellulose acetate and triacetate, polyamide, polyester and polyacrylonitrile fibers, and mixed fabrics and yarns.

DYEING POLYESTER FIBERS WITH VAT DYES. H. Rummler. Textil-Praxis 13, No. 3: 281-286 (1958). In German. Through BCIRA 38: 530 (1958). (4193)

Several of the tested free leuco compounds of vat dyes are still sufficiently finely dispersed above 70° C in aqueous dye liquors to dye polyester fibers satisfactorily. The other vat acids tested were found unsuitable for high temperature dyeing because some of them aggregate at 60° C, and others are affected by the reducing agent.

DYEING TREVIRA POLYESTER FIBER BLENDS WITH WOOL, COTTON, OR VISCOSE RAYON STAPLE FIBERS. W. Kunze. Reyon, Zellwolle u. Chemiefasern No. 6: 455-459 (1958). In German. Through BCIRA 38: 531 (1958). (4194)

Directions are given for dyeing Trevira/wool fabrics in light to medium, bright, and very dark shades, respectively, and reference is made to permanent pleating of these fabrics, dyeing of Trevira/cotton and Trevira/spun rayon fabrics, and brightening and stripping of dyeings on polyester fibers.

DYEING OF ACRILAN ACRYLIC FIBER. H. R. Hadfield and W. M. Sokol (Imp. Chem. Inds. Ltd). J. Soc. Dyers Colourists 74: 629-640 (Sept. 1958). (4195)

The methods of dyeing Acrilan are outlined, and the limitations of various classes of dyes stated. Data are presented to show how the concentration of sulfuric acid affects the handle of the fiber and the fastness properties of acid, chrome, and 2:1 metal-complex dyes. Generally, disperse dyes are the most satisfactory for the dyeing of Acrilan, although for specialized purposes azoic, acid, basic, chrome, metal-complex, and reactive dyes are suggested. Tables. Graphs. Photomicrographs. 16 references.

DYEING ACETATE POULT. Dyer 120: 545-546 (Oct. 10, 1958). (4196)

The causes of creases, ending, listing, stains, watering, and off shades in jig dyeing acetate poult, and methods for avoiding these faults, are enumerated.

PROGRESS IN THE APPLICATION OF VAT DYES. PART 1. Textile Merc. 139: 443, 445-446 (Sept. 26, 1958). (4197)

In this review of developments in vat dye applications, the use of poly-N-vinylpyrrolidone as a dyeing assistant in the discharge printing of cellulose fabrics and a British modified du Pont process in which the method of reducing the vat dye pigment is modified so that naphthol and Rapidogen dyes can also be printed as part of the pattern are described.

PROGRESS IN THE APPLICATION OF VAT DYES. PART 2. USE OF THE STANDFAST MOLTEN METAL MACHINE. Textile Merc. 139: 470-471 (Oct. 3, 1958). (4198)

Two methods for vat dyeing using the Standfast machine are described. According to BP 778 945, a considerable saving of dye can be effected if the concentration of caustic alkali in the dye liquor is much increased beyond the normal in a reduced vat dye liquor. The second process (BP 757 073) has the aim of producing resist printed patterns on cottons and other cellulose fiber fabrics.

NEW METHOD OF PIGMENTING AND HOT DYEING LINEN CHEESES WITH CIBANONE MICROFINED DYES AND SOLVADINE BL CONC. M. Peter and A. Litzler. Ciba Rev. 11: 33-34 (Sept. 1958). (4199)

DYEING WOUND CELLULOSE PACKAGES WITH REACTIVE PROCION AND CIBACRON DYES. J. Annicq. Melliand Textilber. 39, No. 4: 414-416 (1958). In German. Through BCIRA 38: 530 (1958). (4200)

Directions are given for the dyeing of wound packages from viscose rayon, voile and crepe yarns, yarns from Fibro, mercerized cotton, normal cotton, or flax. Three methods of dyebath preparation are outlined. Warp beams, rolled up piecegoods, and loose fibers can also be dyed with these dyes.

PIGMENT DYEING WITH MICRODISPERSE CIBANONE DYES USING CIBA VP STABILIZER. A. Litzler and P. Ulrich. Textil-Rundschau 13: 346-350 (1958). In German. Through BCIRA 38: 530 (1958). (4201)

The authors discuss various problems encountered during the dyeing process (effect of pretreatment of the fiber; effect of hardness formers in the water; interaction between the Ciba VP stabilizer and the water-softener Albatex PO; dye deposit under the tubes, plates, etc.; manner of adding the salt and acetic acid required for the dye takeup; differences in the levelness of the inner and outer layers of the yarn package; action of the Ciba VP stabilizer in the reducing bath). Applicability of the method for dyeing linen yarn cheeses at high temperatures and pigment-dyeing of tapes and ribbons is also considered.

APPLICATION OF THE DAVIDSON COLOR MATCHING METHOD. F. Bryant (Univ. of Melbourne). (Letter to the editor). Textile Research J. 27: 811-812 (Sept. 1958). (4202)

An ingenious solution to the artificial light color matching problem in the dyeing of textiles was proposed by Davidson, using spectrophotometric data for each component in a mixture of dyes. Because problems associated with color matching are similar in both fabric dyeing and paper printing, an attempt was made to apply the Davidson procedure in the latter field. This note records some typical preliminary results which suggest the possibility of extensive application.

MECHANISM OF THE ADSORPTION OF DISPERSE DYES BY CELLULOSE ACETATE. C. H. Giles (Royal Coll. of Science & Technol., Glasgow). (Letter to the editor). J. Soc. Dyers Colourists 74: 655 (Sept. 1958). (4203)

ADSORPTION AT ORGANIC SURFACES. PART 3. SOME OBSERVATIONS ON THE CONSTITUTION OF CHITIN AND ON ITS ADSORPTION OF INORGANIC AND ORGANIC ACIDS FROM AQUEOUS SOLUTION. C. H. Giles, A. S. A. Hassan, M. Laidlaw, and R. V. R. Subramanian (Royal Coll. of Science & Technol., Glasgow). J. Soc. Dyers Colourists 74: 647-654 (Sept. 1958). (4204)

Containing chains of glucosidic units and a high proportion of amide groups, chitin is chemically similar to cellulose, nylon, and the protein fibers. It was thought that a study of its adsorption properties might reveal interesting similarities to and dissimilarities from these groups of fibers. The present paper is devoted to a description of the results of a broad survey of the adsorption behavior of chitin towards inorganic and organic acids and some sulfonated azo dyes. Graphs. Tables. 27 references.

THEORY AND PRINCIPLES OF DYEING DIRECT COLORS. R. A. Brooks (E. I. du Pont de Nemours & Co.). Dyer 120: 161-164 (Aug. 1, 1958). (4205)

The substantivity of direct dyes is discussed and related to molecular structure. Several important environmental factors which influence the application and end-use properties of direct dyes are illustrated. 3 references.

EQUIPMENT AND LAYOUT FOR PACKAGE DYEHOUSE. Am. Textile Reptr. 72: 19, 23-24, 107-109 (Aug. 21, 1958); 63-69 (Sept. 18, 1958). (4206)

The selection of equipment and the physical layout of the package dyehouse for achieving the most efficient and economic batch operations are considered. Part 2 covers types of hot water systems, methods for handling yarn, advantages of various dryers, and efficient use of dyeing equipment.

DYEING AND FINISHING PILE RUGS. Dyer 120: 449-451 (Sept. 26, 1958). (4207)

Procedures for steaming, stripping, scouring, and dyeing curl center mohair and wool pile rugs are described.

CONTROL AND STANDARDIZATION OF THE FASTNESSES OF DYES AND OF DYED AND PRINTED TEXTILE GOODS. E. A. Leidelmeyer. Tex 17, No. 5: 662-665; No. 6: 822-825 (1958). In Dutch. Through BCIRA 38: 542 (1958). (4208)

Proposals of various countries for the standardization of fastness properties of dyeings are reviewed, and a report is given on the 5th European-Continental Fastness Convention.

ULTRAVIOLET ABSORBERS. R. A. Coleman and W. H. Peacock (Am. Cyanamid Co.). Textile Research J. 27: 784-791 (Sept. 1958). (4209)

Data presented on the fading of dyes exposed behind films with and without ultraviolet absorbers indicate the desirability of preventing ultraviolet light from reaching dyes and fabrics. The beneficial effects of incorporating ultraviolet absorbing chemicals into cellulose acetate tricot and nylon are noted. Tables. Graphs. 4 references.

LIGHTFASTNESS OF DIRECT DYES AND DYED FIBERS. I. Rusznak and M. Fehérvari. Textil-Praxis 13, No. 3: 293-298 (1958). In German. Through BCIRA 38: 542 (1958). (4210)

Untreated and ultraviolet irradiated Chloramine Blue FF solutions and untreated and irradiated cotton fabrics dyed with these solutions were compared, and it was found that the direct dyes suffer on irradiation oxidative decomposition into a substantive and nonsubstantive component. The dye uptake of irradiated cotton and rayon decreases and the bleached and dyed cotton, when subjected to ultraviolet light, is oxidized to alkali-sensitive cellulose, with formation of numerous aldehyde groups in addition to the chain cleavage.

LIGHTFASTNESS OF BASIC DYES ON POLYACRYLONITRILE FIBERS. J. Wegmann. Melliand Textilber. 39, No. 4: 408-414 (1958). In German. Through BCIRA 38: 531 (1958). (4211)

The excellent lightfastness of some basic dyes on polyacrylonitrile fibers is discussed, with reference to dyeing mechanism, affinity, wetfastness, relation between constitution and lightfastness, and reversible changes in dyeings.

RESEARCH ON DYEING OF CYANOETHYLATED FIBERS. H. Waibel. Am. Dyestuff Reptr. 47: 675-678 (Oct. 6, 1958). (4212)

After a review of the manufacture of cyanoethylated fibers, the author discusses their properties (particularly their dyeing properties) and the results of research on their dyeability with various types of dyes. 10 references.

WHITE DISCHARGES ON CIBACETE-DYED POLYESTER AND ACRYLIC FIBER FABRICS. A. Wolff. Ciba Rev. 11: 37-38 (July 1958). (4213)

Printing instructions are given for ensuring perfect white discharges of fabrics dyed with heavy shades.

RED RESIST PRINTING. W. Haug. Melliand Textilber. 39, No. 4: 424-425 (1958). In German. Through BCIRA 38: 532 (1958). (4214)

It is shown that red resist styles can be produced with combinations of Naphthol AS and Fast Red Salt TR. The method is described. For white and colored resists, pigment dyes, aluminum sulfate, and tin salt are used in combination with a binder compatible with the aluminum-sulfate/tin salt.

KERAG ROLLER SCREEN PRINTING MACHINE. H. Baumann. Textil-Praxis (English ed.) No. 3: 131-134 (Sept. 1958). (4215)

In the Kerag machine the surface upon which the material to be printed is placed has been replaced by a calender roller. The stencil is uncoiled from this calender roller, and the printing effect is produced by means of a tipping squeegee. Photographs. Diagram.

CHECKLIST FOR BUYING A SECOND-HAND PRINT MACHINE. J. H. Mack. Textile Bull. 84: 122-124 (Sept. 1958). (4216)

MACHINES FOR THE PRODUCTION OF SCREEN PRINTING STENCILS. Melliand Textilber. 39, No. 3: 299-300 (1958). In German. Through BCIRA 38: 474 (1958). (4217)

A pneumatically-driven stenter-frame, the Poly-cop apparatus (for copying and adding repeats), a varnishing and excess-varnish removing machine, and a Duplex dye-straining machine with double strainer and a viscometer for measuring the viscosity of dyes and varnishes are briefly described (products of Gebrüder Lüscher, Obstalden, Switzerland).

MODERN SCREEN PRINTING MACHINES. H. G. Jakob. Reyon, Zellwolle u. Chemiefasern No. 5: 379-382; No. 6: 459-464 (1958). In German. Through BCIRA 38: 532 (1958). (4218)

The development of the construction of screen printing machines with magazine arrangement and with stationary stencils is reviewed.

PORTAL PRINTING MACHINE. G. Hellinger. Deut. Textiltech. 8, No. 6: 308-312 (1958). In German. Through BCIRA 38: 532 (1958). (4219)

The principles and mechanism of this new printing machine are compared with those of the old system of roller printing machines, and advantages of the new construction (VEB Textilmaschinenbau, Zittau) in practical use are pointed out. Work is still in progress on the automation of the machine, and preliminary experiments have been made on automatic pigment transfer and the fitting of a printing-cloth washer.

DRYING D 4

NEW MACHINE FOR FABRIC DRYING AND FINISHING WITH POLYMERIZATION. Tinctoria 55, No. 4: 127-129 (1958). In Italian. Through BCIRA 38: 438 (1958). (4220)

The automatic drying and polymerizing unit Isotex is described and illustrated.

FABRIC SEPARATING DEVICE WITH PHOTOELECTRIC GUIDE CONTROL. H. Fritzsch. Deut. Textiltech. 8, No. 6: 313-314 (1958). In German. Through BCIRA 38: 534 (1958). (4221)

The construction and mechanism of the new device for separating the fabric at the center selvage are described, and its economic advantages are pointed out. The device is arranged at the outlet end of the dryer and operates completely automatically.

TESTING AND MEASUREMENT E

TESTING COSTS CAN BE JUSTIFIED. R. Parks. Textile Inds. 122: 164-166 (Oct. 1958). (4222)

The importance of reliability and accuracy of testing reports is emphasized, and pointers for achieving these are noted.

MOISTURE DETERMINATION IN YARNS AND FABRICS. A. Kershaw. Hosiery Trade J. 65: 71 (Oct. 1958). (4223)

The method described makes use of a standard hank of yarn or piece of fabric whose bone-dry weight is known. When the standard and any sample of like character are exposed to the atmosphere, the moisture content of the standard is determined by weighing and the moisture content of the sample is measured by analogy to within commercially acceptable tolerances.

THE PHYSICAL PROPERTIES OF COTTON. A. N. Gulati. Asia Pub. House, Contractor Bldg., Nicol Road, Ballard Estate, Bombay 1, India. 1957. 192 p. $2.45. (4224)

The physical properties of cotton and cotton testing methods are reviewed under the following headings: the cotton fiber, fiber length, fiber maturity, fiber fineness, fiber strength and elasticity, fiber friction, yarn structure, yarn characteristics, moisture relations, statistical methods, role of the microscope, technological importance of some structural features of cotton fibers, and quality of cotton.

MILL TEST PROCEDURES: OPENING THROUGH SPINNING, WEAVING, KNITTING. N. L. Enrick. Rayon Pub. Corp., 303 Fifth Ave., New York 16, N. Y. 1958. 54 p. $3.50. A Modern Textiles Magazine handbook. (4225)

Over 50 complete test methods are given, including purpose, sampling, evaluation of results, and illustrative worksheets for use in the control of quality, waste, and production, from opening through spinning, yarn preparation, warping, slashing, weaving, and knitting. Individual test procedures are given in step-by-step sequence. General comments, typical applications, and expected range of test results are presented separately for each procedure. The portion on knitting tests was contributed by E. N. Ditton.

FIBERS E 1

IDENTIFICATION OF NATURAL, ARTIFICIAL, AND SYNTHETIC FIBERS. T. Raspe. Tex 17, No. 6: 796-803 (1958). In Dutch. Through BCIRA 38: 534 (1958). (4226)

The tables given list simple identification tests (burning test, resistance to moth and microorganisms), mechanical and technological tests, microscopic tests, and chemical reactions. The test results are discussed.

SOME TESTS FOR DISTINGUISHING BETWEEN POLYAMIDE AND POLYESTER FIBERS. N. Bigler. Ciba Rev. 11: 30-35 (July 1958). (4227)

The methods described include: determination of amino and imino groups; determination of terephthalic acid in polyester fibers; solvent test; reactions under the microscope; and determination of melting point. Photomicrographs. 2 references.

IMPROVEMENT ON THE SERVO CONVERSION OF MANUAL FIBROGRAPHS. J. D. Tallant (So. Utilization Research & Develop. Div.). (Letter to the editor). Textile Research J. 27: 815 (Sept. 1958). (4228)

METHOD FOR DETERMINING THE LENGTH OF COTTON FIBERS. M. Hoffmann. Textil-Praxis (English ed.) No. 3: 139-143 (Sept. 1958). (4229)

The Naumann method consists in scanning the fiber tuft which has been prepared on the Johannsen-Zweigle apparatus by means of a modified Fibrograph. The staple diagram is obtained in 30-40 min. Photographs.

PNEUMATIC AUTOMATIC MICRONAIRE TESTER, MODEL 70502. Textil-Praxis 13, No. 3: 236-237 (1958). In German. Through BCIRA 38: 536 (1958). (4230)

The new tester is described, and its advantages over the previous construction are pointed out.

ISOLATION AND IDENTIFICATION OF FUMARIC ACID IN RAW COTTON FIBER. L. E. Gregory and G. V. Merola (U. S. Dept. Agri.). (Letter to the editor). Textile Research J. 27: 813-814 (Sept. 1958). (4231)

YARNS E 2

BEHAVIOR OF THE LENGTH VARIATION CURVE FOR SMALL INTEGRATION LENGTHS. W. Wegener and W. Rosemann. Melliand Textilber. 39, No. 4: 368-375 (1958). In German. Through BCIRA 38: 539 (1958). (4232)

On the basis of the geometrical integral definitions given previously, the authors examine the behavior of the length-variation curve for sufficiently small integration length L. It is shown that the results obtained for small L values differ to some extent from the usual statistical interpretations. See abstr. 597/58.

METHOD FOR DETERMINING THE MOISTURE CONTENT OF TIRE RAYON. E. Husung. Melliand Textilber. 39, No. 3: 237-238 (1958). In German. Through BCIRA 38: 482 (1958). (4233)

The method described makes it possible to determine with sufficient accuracy the moisture content of the whole package from the yarn length measured on a rewinding apparatus with length-measuring device, and the absolute dry weight measured on short yarn sections. The rewound yarn can be returned for further processing, so that very little material is wasted during the determination.

MECHANICAL DEVICE FOR MEASURING YARN DIAMETER. C. B. Landstreet (U. S. Dept. Agri.). Textile Bull. 84: 83-85 (Sept. 1958). (4234)

This article describes a newly developed instrument for accurately determining the diameter of yarns. Included are a description of the operation of the instrument, detailed illustrations of parts, formulas for calculations, and test data.

REGAIN CHANGES IN STRAINED YARN. C. S. Clemson (Shirley Inst.). (Letter to the editor). J. Textile Inst. 49: T464-T466 (Sept. 1958). (4235)

A method and apparatus whereby the regain changes in strained yarn can be conveniently measured are described. Graphs. 5 references.

RATIONAL STRENGTH TESTING BY SCALES WITH CLASSIFICATION. H. Langer and W. Troll. Deut. Textiltech. 8, No. 4: 170-172 (1958). In German. Through BCIRA 38: 444 (1958). (4236)

Graduated scales on strength testers are described, which make it possible to arrange the single strength values in corresponding classes to shorten the process of evaluation.

NEW CONTROL DEVICES AND NEW METHODS FOR COTTON FIBERS, YARNS, AND FABRICS. PART 2. YARNS. Bull. Inst. Textile France No. 72: 77-93 (1957). In French. Through BCIRA 38: 404 (1958). (4237)

Devices for measuring variations in tensile strength and elongation at break of yarns are reviewed. 47 references.

YARN WEIGHT NUMBERING. A. Gerber. Textil-Praxis 13, No. 4: 340-341 (1958). In German. Through BCIRA 38: 539 (1958). (4238)

Length-numbering systems are compared with weight-numbering methods, the international count Td (silk and rayon industry) and the new tex system being the most important representatives of the latter. Advantages and limitations of these systems are discussed.

INTRODUCTION OF THE INTERNATIONAL TEX NUMBERING SYSTEM. Melliand Textilber. 39, No. 4: 379-381 (1958). In German. Through BCIRA 38: 539 (1958). (4239)

Tables are given listing the usual numbering systems for linen, ramie, hemp, bast fiber, jute, cotton, worsted, coarse, asbestos, and chemical fiber yarns against the corresponding tex values. The tables are compiled from the respective specifications. All details of the tex system and the complete series of whole numbers, as well as directions for the introduction of the system in three stages, are given in the specification DIN 60905.

FABRICS E 3

DIMENSIONAL CHANGES IN WOVEN FABRICS (EXCLUDING WOOL). AATCC Comm. on Dimensional Changes in Textile Fabrics. Am. Dyestuff Reptr. 47: P731-P732 (Oct. 20, 1958). (4240)

Tentative test method 91-1958.

ELONGATION IN DEPENDENCE OF TIME, TESTING WIDTH, AND TESTING LENGTH OF DYNAMICALLY STRESSED VISCOSE RAYON FABRIC WITH TAFFETA WEAVE. W. Wegener and H. Enneking. Melliand Textilber. 39, No. 2: 137-143 (1958). In German. Through BCIRA 38: 405 (1958). (4241)

It is shown that, in taffeta-weave viscose rayon fabric, the time-dependent total, residual, and elastic elongation, degree of elasticity, and warp contraction become linear at constant testing-width and variable testing length (or variable testing width and constant testing length) and at constant maximum load (about 70% of the breaking load of the fabric).

EVALUATION OF THE WASH-AND-WEAR CHARACTER OF FABRICS FROM CREASING SCALES. B. S. Marek. SVF Fachorgan Textilveredlung 13, No. 5: 247-257 (1958). In German. Through BCIRA 38: 483 (1958). (4242)

The development of a creasing scale for the evaluation of the wash-and-wear properties of fabrics is described, and the production of reproducible random creases in the fabric samples, as well as the applicability of the scale, is discussed. By comparing creasing-angle measurements in dry and wet state with the creasing-picture notes of the scale it is shown that the dry creasing-angle measurements are insufficient for the characterization of the crease-resistance of the fabric.

MEASUREMENT OF THE HEAT INSULATING PROPERTY OF TEXTILES. J. Fleissig and Z. Jerabkova. Textil 13, No. 2: 58-61 (1958). In Czech. Through BCIRA 38: 404 (1958). (4243)

The method of measuring the heat-insulating property of textiles and the apparatus, constructed in the Czechoslovakian Wool Research Institute, Brno, are described. Both method and apparatus were accepted as standards.

COMPARATIVE STUDY ON THE MOISTURE CONTENT OF SAMPLES EXPOSED TO SUNLIGHT OR IN AN IRRADIATION APPARATUS OF THE ATLAS WEATHEROMETER TYPE. P. Rochas and others. Bull. Inst. Textile France No. 73: 31-38 (Apr. 1958). In French. Through BCIRA 38: 542 (1958). (4244)

Experiments are described which show that humidity and temperature conditions differ little between textiles exposed to irradiation in the Weatherometer and those subjected to sunlight during summer months. Taking into account the temperature increase in the sample resulting from the absorption of radiation, the moisture content of fabrics exposed to sunlight or to artificial light in the Weatherometer corresponds to the moisture regain of the same samples in equilibrium with an atmosphere of approximately 15% rh.

WETTING ANGLE DETERMINATION: A TOOL FOR EVALUATION OF COATING ADHESION. S. Orchon. Tappi 41, No. 1: 33-37 (1958). Through BCIRA 38: 483 (1958). (4245)

An attempt to correlate wetting, penetration, and adhesion properties of specific adhesives has been made by measuring contact or wetting angles between the adhesive and the adherent (fabric). The theoretical background to the problem is discussed and it is shown that for a given system the contact angle is directly proportional to the work of adhesion. Pictures of drops of adhesives on the surface of different backings have been obtained with a ciné camera, and contact angles have been measured from enlargements of these pictures.

TESTING AND ENGINEERING OF MILITARY TEXTILES. S. J. Kennedy. ASTM Bull. No. 232: 33-36 (Sept. 1958). (4246)

This address, presented in acknowledgment of the Harold DeWitt Smith Award, reports the development of the Stoll-Quartermaster Universal Abrasion Tester. 11 references.

METHODS RECOMMENDED FOR TESTING THE TEAR STRENGTH OF FABRICS. Bull. Inst. Textile France No. 73: 69-79 (1958). In French. Through BCIRA 38: 541 (1958). (4247)

Conditions and mode of operation for determining the tear strength of fabrics are specified, with special reference to four methods, the respective devices, their mechanisms, and details to be included in the report.

CALCULATION OF FABRIC DENSITIES. U. Schirdewan. Melliand Textilber. 39, No. 4: 389-392 (1958). In German. Through BCIRA 38: 541 (1958). (4248)

New simple approximation equations are given for calculating the number of warp or weft threads per 1 cm, and it is shown how any desired relative weave density can be found from tables calculated by means of a slide rule.

HAND-OPERATED ARCO BURSTING PRESSURE TESTER. A. R. Czerny and O. Posch. Melliand Textilber. 39, No. 4: 456-457 (1958). In German. Through BCIRA 38: 541 (1958). (4249)

The apparatus described is suitable for determining the strength of fabrics at any finishing and processing stage, as well as for testing coated materials, foils, paper, packaging materials, etc. The bursting pressure, which represents a combination of the tear strength, of warp and weft, is taken as a criterion of the strength.

NFW TESTING METHOD FOR DETERMINING THE ABRASION RESISTANCE OF TEXTILES. G. Dürig and W. Augsburger. Textil-Rundschau 13, No. 5: 259-267 (1958). In German. Through BCIRA 38: 446 (1958). (4250)

The method described is based on the use of nylon brushes as abrading element and a circular area as abrading surface. The tester is constructed on the mechanical principles of the Schiefer machine and makes it possible to obtain in a very short time measuring values which are useful in the practical evaluation of a textile material.

ABRASION TESTING. J. Ecker. Textil-Praxis 13, No. 4: 381-385 (1958). In German. Through BCIRA 38: 542 (1958). (4251)

With reference to the attempts to standardize the abrasion test on textiles, the author defines the difference between the terms abrasion and wear and discusses testing of the natural abrasion in the case of animal fibers, the purpose of abrasion testing, and testing of the artificial wear.

RESISTANCE TO WETTING (ALTERNATIVE DYNAMIC IMMERSION ABSORPTION TEST). Am. Dyestuff Reptr. 47: P687-P688 (Oct. 6, 1958). (4252)

AATCC tentative test method 70A-1958. This test method, which makes use of metal tubes in the Launder-Ometer, was developed as an alternative to tentative test method 70-1952, which specifies the use of a 6-liter jar that is not commercially available. Other advantages include saving in amounts of test fabric, blotters, and distilled water required.

ABRASION TESTING OF TEXTILES WITH THE ACCELEROTOR: REPRODUCIBILITY IN INTER-LABORATORY TESTS. T. F. Cooke. Am. Dyestuff Reptr. 47: P679-P683 (Oct. 6, 1958). (4253)

The results of a statistically planned interlaboratory abrasion test program based on the Accelerotor as the testing instrument are presented. The objective was to establish, on a broader basis than heretofore attempted, the degree of reproducibility of the weight loss of specimens obtainable in the Accelerotor. Photographs. Tables.

COLORFASTNESS OF TEXTILES TO INDUSTRIAL LAUNDERING. R. B. Smith. Am. Dyestuff Reptr. 47: P684-P686 (Oct. 6, 1958). (4254)

The accelerated test, tentative test method 87-1958, is presented and work leading up to its adoption is reported.

ASSESSING THE EFFICIENCY OF DRYING CLOTHS. Linen Ind. Research Assoc. Textile Mfr. 84: 444 (Sept. 1958). (4255)

A simple instrument for evaluating the behavior of a dish towel during the first fractions of a second of contact with a wet surface is described. Photographs.

TEMPERATURE MEASUREMENT WITHOUT TOUCHING. B. B. Ritchey (Minneapolis-Honeywell Regulator Co.). Textile Bull. 84: 119-122 (Sept. 1958). (4256)

Since the friction caused from cloth moving against the sensing tip of a temperature measuring device may generate heat and produce inaccurate readings, an arrangement for measuring temperature without contacting the cloth is desirable. This article points out that this can be done with the use of a radiation pyrometer. It tells how the instrument works and lists conditions which must be met for its proper operation. Diagram. Photograph. Graphs.

OTHER E 4

QUALITATIVE DETERMINATION OF COPPER IN TEXTILES. N. Bigler. Ciba Rev. 11: 31-32 (Sept. 1958). (4257)

The determination of copper by means of the hydrogen peroxide test, the pyridine-sulfocyanide test, and the color reaction of copper with sodium diethyl dithiocarbamate is described. 3 references.

DIFFUSION FLUOROMETER. P. Rochas. Bull. Inst. Textile France No. 73: 63-68 (Apr. 1958). In French. Through BCIRA 38: 542 (1958). (4258)

Principles and mechanism of the apparatus for measuring the fluorescence color of opaque materials, especially of optically bleached textiles, are described. The apparatus consists of a source of ultraviolet light (emitted by a high pressure mercury vapor lamp and filtered by a Wood filter), a set of filters limited to the visible range only, and a photoelectric cell which receives the fluorescent light suitably filtered by the analyzing filters. Plotting of the fluorescent color curves requires only a few minutes.

IDENTIFICATION OF NAPHTOLS BY MICROSUBLIMATION. W. Kunze. Textil-Praxis (English ed.) No. 3: 129-131 (Sept. 1958). (4259)

A table for use in identifying Naphtol AS dyes is given. Photomicrographs.

DETERMINATION OF THE SOLUBILITY OF DYES. M. Capponi (Sandoz Ltd). Am. Dyestuff Reptr. 47: 673-674 (Oct. 6, 1958). (4260)

A method of determining the solubility of dyes is described. In the conventional methods solubility is assessed by visual examination of the filters used for filtering a series of solutions of increasing concentration. The present method consists in the colorimetric measurement of the filter residues of such a series upon redissolving in water. The filter material is a Dynel fabric, whose specifications are given. It possesses no affinity for dyes. The solubility values are determined from graphical data. They are reproducible and are a dependable guide to solubility in practical application. Graph.

DYNAMIC TESTING METHODS FOR HIGH POLYMER SOLIDS. PART 1. DYNAMIC TESTING OF TEXTILES. F. Winkler. Faserforsch. u. Textiltech. 9, No. 3: 109-117 (1958). In German. Through BCIRA 38: 481 (1958). (4261)

Factors playing an important role in dynamic testing of solid high polymers are discussed (with special reference to the time-dependent tension relaxation and retardation), and devices and methods (divided into 8 groups according to the stress principle on which they are based) are reviewed. 63 references.

RAPID DETERMINATION OF MOISTURE CAPACITY, DIFFUSION COEFFICIENT, AND ACTIVATION ENERGY IN PLASTICS LAMINATES. J. W. Rowen and R. K. Laudenslager. Modern Plastics 36: 222-224 (Nov. 1958). (4262)

A study was made of three possible procedures for the determination of the sorption characteristics of plastic laminates. An accelerated measurement and extrapolation procedure is presented in six steps. The necessary moisture sorption-diffusion quantities may now be obtained in one week instead of one year. Graphs. Tables. 7 references.

ACTION OF ALKALINE IODINE SOLUTIONS ON COTTON CELLULOSE, HYDROCELLULOSES, AND PERIODATE OXYCELLULOSES. R. L. Colbran and T. P. Nevell (Shirley Inst.). J. Textile Inst. 49: T333-T344 (July 1958). (4263)

A widely used method of determining the aldehyde groups in chemically modified celluloses consists in measuring the amount of iodine consumed from an alkaline solution in the oxidation of these groups to carboxyl groups. This method has been critically examined in a study of the action of various alkaline iodine solutions on cotton cellulose, several hydrocelluloses, and a periodate oxycellulose. The effects of pH, temperature, and potassium iodide concentration, on the stability of these solutions, and on their action on the cellulose materials was investigated. Graphs. Tables. 12 references.

DETERMINATION OF FASTNESS TO PERSPIRATION OF DYEINGS AND PRINTS. M. Bühler. Melliand Textilber. 39, No. 3: 285-288 (1958). In German. Through BCIRA 38: 483 (1958). (4264)

An attempt is made to show the difficulties encountered in reproducing the effect of perspiration on dyeings and prints. The testing methods used at present (ECE method, DIN 54 020; perspirometer method of the AATCC; flat-dish method) are critically examined and the effect of certain sweat constituents, especially amino acids, on metal-containing dyeings is pointed out.

EVALUATING ANTISTATIC FINISHES. F. H. Steiger (Rohm & Haas Co.). Textile Research J. 27: 721-733 (Sept. 1958). (4265)

Following a brief summary of the published methods for the measurement of static electricity on textiles, the effect of test variables is explored. The relations between charge, resistivity, and the concentration of the antistatic finish are investigated, and it is demonstrated that on a given fabric the logarithm of the charge is a linear function of the logarithm of the surface resistivity, independent of the finish which produces the electrical conductivity. Diagram. Graphs. Tables. 40 references.

METHOD FOR DETERMINING THE SULFUR CONTENT OF WOOL. M. V. Glynn (Gordon Inst. of Technol.). Textile Research J. 27: 744-746 (Sept. 1958). (4266)

The well-known method of wet combustion by means of a perchloric-nitric acid mixture has been applied to the determination of the sulfur content of wool. It has been shown to give results comparable with those obtained by standard microanalytical methods when applied to virgin wools of different qualities and to wool modified to contain the more resistant monosulfide linkage of lanthionine. Tables. 12 references.

INDUSTRIAL ENGINEERING F

WORK STUDY IN THE COTTON AND WOOLEN INDUSTRIES. PART 1. E. Ford. Fibres 19: 337-338 (Oct. 1958). (4267)

The development of the various techniques of work study (time and motion study, methods study, flow analysis, human engineering) is described, and their application to the particular problems of the textile industry is discussed.

PHOTOGRAPHIC WORK SAMPLING: NEW COST-CONTROL TECHNIQUE. R. L. Barlament (Appleton Woolen Mills). Textile World 108: 52-53 (Sept. 1958). (4268)

The application of the Memomotion technique to a study of a warping operation is described to exemplify how it can be used to improve textile operations. Memomotion is a photographic technique for shooting motion pictures at relatively slow speeds and then projecting them back at normal speeds. In textiles, photographic work sampling may have particular application in studying loom stoppages, loom utilization, spinning and carding end breakages, and winder effectiveness.

TOP MANAGEMENT DECISION SIMULATION: THE AMA APPROACH. F. M. Ricciardi and others. Am. Management Assoc., 1515 Broadway, New York 36, N.Y. 1957. 126 p. $4.50. (4269)

An AMA developed top management "game", which permits practice in making decisions in problems of allocating limited working capital to the factors of production in a competitive market.

SOUTHERN TEXTILE METHODS AND STANDARDS ASSOCIATION. Proceedings, spring meeting, Clemson, S. C., March 13 and 14, 1958. 45 p. (4270)

Application of statistical controls to industrial engineering, by H. E. Foster, p. 1-15; A look ahead in spinning, by R. E. Pomeranz, p. 16-22; Selection of industrial engineers, by C. Johnson, p. 23-33; Training of standards personnel, by K. J. Scarlett, p. 34-42; Improving performance of management personnel, by L. F. Zerfoss, p. 43-45.

DAILY REPORT OF INVENTORY. Textile Inds. 122: 92-96, 209 (Sept. 1958). (4271)

Daily inventory system using punched card accounting and control procedures. Sample forms are shown. Photographs.

SPECIALIZED OPERATIVE TRAINING IN THE LANCASHIRE TEXTILE INDUSTRY. W. E. Sutcliffe. Textile Merc. 139: 206-209 (Aug. 8, 1958). (4272)

The analytical (or part) method of training has been found suitable to many of the types of work commonly encountered in the spinning and weaving sections of the cotton industry. This paper outlines the problems facing a central organization when contemplating the application of specialized operative training to an industry, and gives a brief description of the two principal methods.

COST CONTROL FOR PROFIT IMPROVEMENT. R. E. Heiney, Jr. Am. Textile Reptr. 72: 11, 119-122 (Aug. 21, 1958). (4273)

The overall program of cost controls and the benefits which they can provide are discussed in this article under the headings: tools available for cost control, chart of accounts, financial statements, predetermined (standard) cost, budgeting, profit planning, other management tools, and program for cost control.

OPERATIONS RESEARCH RECONSIDERED: SOME FRONTIERS AND BOUNDARIES OF INDUSTRIAL OR. Am. Management Assoc., 1515 Broadway, New York 36, N.Y. 1958. 143 p. $3.75. AMA management report 10. (4274)

Successful and "waste of time" results of OR uses.

MACHINERY AND MAINTENANCE F 1

STARTING AND MAINTAINING RANGE DRIVES. C. L. Griffin, Jr. Textile World 108: 56-57 (Sept. 1958). (4275)

CENTRALIZED POWER LUBRICATION SYSTEMS. C. E. Moss (Firestone Tire & Rubber Co.). Am. Textile Reptr. 72: 55-59, 104 (Sept. 18, 1958). (4276)

The multiple benefits resulting from the adoption of automatic power lubrication systems are cited. Photographs.

BEARINGS, LUBRICANTS, AND LUBRICATION: A DIGEST OF 1957 LITERATURE. Mech. Eng. 80: 64-74 (Sept. 1958). (4277)

A review of the 1957 literature under the headings: boundary lubrication, metalworking lubrication, automotive lubricants, properties of lubricants, bearings, gear lubrication, and books and reports. 220 references.

ORGANIZED PLANT LUBRICATION. PART 1. R. K. Gould (Texas Co.). Textile Bull. 84: 125-128 (Sept. 1958). (4278)

Some of the aspects of organized lubrication described are: (1) cost of lubricant, (2) maintenance cost, (3) decreased downtime, (4) fewer seconds, and (5) increased equipment life. Photographs.

A-C GROUP DRIVES FOR MODERN TEXTILE MACHINES. C. G. Helmick. Elec. Engineering 77: 498-500 (June 1958). (4279)

The advantages of ac group drives over dc drives are presented with several examples.

GUIDE SURFACES AND TENSION DEVICES. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Oct. 1958. 4 p. Bull. X-91 (replaces Technical Information Bull. X-38). Free. (4280)

A summary of the various types of guide surfaces and tension devices in use today.

AN IDEAL ELECTRICAL LAYOUT FOR A TEXTILE MILL. M. V. Gelders. Elec. Engineering 77: 404-407 (May 1958). (4281)

Numerous factors applicable to the design of an electric system for a textile mill are discussed. In order to achieve an "ideal" layout, the design engineer should take advantage of new equipment and ideas which have been tested and shown to be of value.

SHOPPING FOR USED LIFT TRUCKS. R. F. Moody (Hyster Co.). Textile Inds. 122: 112-116 (Sept. 1958). (4282)

Pointers are given on how to set up specifications for the lift truck and how to determine the operating condition of the truck.

STANDARDIZATION OF MILL MACHINERY. W. S. Sproule. Textile Bull. 84: 86, 88-90 (Sept. 1958). (4283)

The ways in which standardization affects manufacturing quality are noted, and actual case histories of the effects of nonstandardized machinery during carding are described. Diagrams.

MATERIAL HANDLING IN THE SPINNING MILL. PART 2. O. Glaessner. Textile Recorder 76: 64-65 (Sept. 1958). (4284)

Ideas for the reorganization of internal mill transport are presented. Diagrams. Photograph.

TOTALLY ENCLOSED MOTOR RECOMMENDED FOR TEXTILE NEEDS. H. S. Colbath (Bibb Mfg. Co.). Am. Textile Reptr. 72: 47, 49, 105 (Sept. 18, 1958). (4285)

Totally enclosed motors, because they will confine internal fires caused by shorted or grounded windings and will prevent lint from penetrating the interior of the motor, are those recommended for use in textile mills. Points to be considered in selecting motors are discussed.

DUST CONTROL METHODS FOR PLANT AND PRODUCTS. PART 3. F. H. Slade. Textile Mfr. 84: 439-443 (Sept. 1958). (4286)

The author discusses the Pneumafil group system, the Cacap system (Pneumafil in conjunction with a Carrier air conditioning plant), Carrier fly and dust extraction system for high speed beamers, Sturtevant system for high speed cone winders, vacuum stripping of cards, and central and portable vacuum cleaning systems for free dust collection. Diagrams. Photographs.

WASTE DISPOSAL F 2

TEXTILE WASTE PROBLEMS. R. S. Ingols (Ga. Inst. of Technol.). Sewage and Ind. Wastes 30: 1273-1277 (Oct. 1958). (4287)

Starch, textile fibers, sulfides, and dyes are components of textile wastes which should be reduced by biological treatment. High pH values, high salt concentrations, mildew depressants, chromates, bleach solutions, and synthetic detergents are components which may interfere with biological treatment. With careful design, it is possible to provide treatment of textile wastes by lagooning, trickling filters, or activated sludge. However, there are advantages and limitations to each method. 4 references.

COLOR REMOVAL IN WASTE-WATER TREATMENT PLANTS. N. L. Nemerow and T. A. Doby (N. C. State Coll.). Sewage and Ind. Wastes 30: 1160-1165 (Sept. 1958). (4288)

A survey of the color removal efficiencies of 138 municipal waste-water treatment plants is analyzed. Graphs. Tables. 2 references.

CURRENT RESEARCH ON TEXTILE WASTE TREATMENT. R. H. Souther and T. A. Alspaugh (Cone Mills Corp.). Sewage and Ind. Wastes 30: 992-1011 (Aug. 1958). (4289)

This paper covers three phases of the research work at the Cone Mills laboratory: (1) the various characteristics and pollutional effects from cotton processing; (2) research on some of the more practical treatment methods for textile wastes; and (3) the effect of various outside factors on satisfactory biological treatment. Tables. 20 references.

QUALITY CONTROL F 3

QUALITY: MEASUREMENT AND INTERPRETATION. A. Cross. Textile Merc. 139: 53-56, 67 (July 11, 1958). (4290)

INTERDEPARTMENTAL COMPLAINT PLAN. F. Vogel. Textile Inds. 122: 151-153 (Oct. 1958). (4291)

A method of improving quality with an interdepartmental complaint plan is explained.

SCIENCES G

CHEMISTRY G 1

EFFECT OF FORCES DUE TO CAPILLARITY ON THE SWELLING OF FIBERS. M. Ollagnier. Chim. et Industr. 79, No. 6: 770-773 (1958). In French. Summary in BCIRA 38: 535 (1958). (4292)

KINETIC STUDY OF THE SORPTION, DUE TO DIFFUSION, FROM A SOLUTION FLOWING THROUGH A MASS OF FIBERS. B. Olofsson. J. Chim. Phys. 55, No. 4: 285-295 (1958). In French. Summary in BCIRA 38: 535 (1958). (4293)

ELECTRON MICROSCOPIC REPRESENTATION OF LARGE LENGTH PERIODS IN CELLULOSE FIBERS. K. Hess, E. Gütter, and H. Mahl. Kolloid Z. 158, No. 2: 115-119 (1958). In German. Through BCIRA 38: 537 (1958). (4294)

The highly oriented, lattice-ordered Fortisan fiber is used as a further example for the representation of large length periods in precipitated cellulose fibers under the electron microscope. The Fortisan fibers (produced by high stretching of precipitated cellulose acetate fibers) show after deposition of iodine a small period of 100-200 Å and a particularly distinct large period with a scattering width of 650-800 Å. The electron micrograms show, in addition, a pronounced length structure which is substantiated by micellar bands, confirming thus the structure model given previously for cellulose fibers. The possibility of explaining the large period by the superposition of micellar bands with varying small periods is discussed.

LATERAL ARRANGEMENT OF CELLULOSE CHAINS IN DRY RAMIE. M. Oberlin and J. Mering. Memor. Serv. Chim. Etat 41, No. 1: 67-69 (1956/57). In French. Through BCIRA 38: 537 (1958). (4295)

It is shown that the ramie cellulose has a laminar structure, the lamellae being arranged parallel to the plane (001) of the lattice, perpendicularly to this plane, the mean thickness of the crystallites is small (about 8Å).

POLYTHENE CRYSTAL STRUCTURE. J. W. S. Hearle. Skinner's Silk & Rayon Record 32: 1048-1049 (Oct. 1958). (4296)

The structure of a single crystal of polythene made by evaporation from a solution of polythene in hot xylene is described. Photomicrographs.

EVALUATION OF DETERGENTS WITH SPECIAL REFERENCE TO LAUNDERING. R. E. Wagg (Brit. Launderers' Research Assoc.). Proc. Intern. Congr. Surface Activity 4: 35-42 (1957). (4297)

The techniques found to be of most use for evaluating detergents both on the laboratory and on the plant scale are reviewed. Subjects discussed include the limitations of chemical analysis and measurement of physical properties, the design of a suitable laboratory washing test with particular reference to the choice of material to be washed, the nature of the soiling matter used, the method of washing, and the ways dirt removal may be assessed. The importance of ensuring that the selected technique gives results correlating with those obtained in practical laundering is stressed. Methods of laundry experimentation are described and reference made to the application of experimental design and statistical methods to both laboratory and laundry testing. Graphs. Tables. 11 references.

SOME NEW OBSERVATIONS ON THE ACTION OF NaCMC IN WASHING BATHS. K. J. Nieuwenhuis and K. H. Tan (Wasserij-Instituut TNO). Proc. Intern. Congr. Surface Activity 4: 12-24 (1957). (4298)

Both at 24° and at 80° C NaCMC (the sodium salt of carboxymethylcellulose) has no effect on the soil averting power, or soil suspending power, of a solution of a partially sulfated alkylarylpolyglycolether with regard to unbleached cotton which had been extracted with organic solvents. At both temperatures it does increase the soil averting power of the solution with regard to bleached cotton. Addition of the basic dyestuff Acridine Orange (AO) to a soil dispersion causes soil particles to be fixed on a bleached cotton fabric. A critical survey of all available literature shows that the question of whether the soil averting power of NaCMC is due mainly to an interaction with the fabric or with the soil cannot yet be answered definitely. Graphs. 29 references.

RATE OF WETTING OF TEXTILES BY DETERGENT SYSTEMS. K. Durham and M. Camp (Unilever Ltd). Proc. Intern. Congr. Surface Activity 4: 3-11 (1957). (4299)

This paper describes an investigation of the wetting of cotton by detergent solutions. An apparatus has been designed which gives an accurate measure of the rate of wetting of cotton by detergent solutions. An attempt has been made to analyze the problem of wetting of a fibrous mass and equations for the surface tension as a function of time have been introduced into the Rideal-Washburn equation prior to integration. The resultant equations are compared with experimental results. It is evident from this work that diffusion of surface-active material to the air/water interface is a rate-governing process in the wetting of capillary systems such as cotton fabric by detergent solutions. Tables. Graphs. Diagrams. 10 references.

MICROSCOPIC STUDIES OF DETERGENCY: DIRT REMOVAL FROM VARIOUS FIBERS. R. E. Wagg and G. D. Fairchild (Brit. Launderers' Research Assoc.). J. Textile Inst. 49: T455-T463 (Sept. 1958). (4300)

The removal of various types of fatty compounds from a variety of fibers has been studied by means of the microscope. The effect of variation of detergent, additive, pH, and temperature has been examined. Tables. Photomicrographs. 4 references.

CRITICAL CONCENTRATION OF DETERGENT ACTION. M. Rosch. Textil-Praxis 13, No. 3: 288-292 (1958). In German. Through BCIRA 38: 543 (1958). (4301)

A series of laboratory washing tests, made on artificially soiled cotton and wool, by using different concentrations of various detergents, showed that "optimum washing-effect concentration" is higher in cotton than in wool. The critical washing-effect concentrations may vary considerably for alkaline, neutral, and acid washing but are in most cases (in g/l) of the order of the c_k-values of chemically pure surface active substances.

SOLUBILITY OF BINARY AND TERNARY SYSTEMS OF SYNTHETIC DETERGENTS. C. Kortland and P. L. Kooijman (Koninklijke/Shell-Laboratorium, Amsterdam). Proc. Intern. Congr. Surface Activity 4: 25-34 (1957). (4302)

An investigation was carried out on the solubility of certain mixtures of alkyl-aryl sulfonates and alkyl sulfates, and of alkyl-aryl sulfonates and nonionic detergents. A marked mutual influence of alkyl sulfates and alkylbenzene sulfonates was found. Graphs. Tables. 3 references.

THEORETICAL VALUES OF THE DYNAMIC STRETCH MODULI OF FIBER-FORMING POLYMERS. W. J. Lyons (Textile Research Inst.). J. Appl. Phys. 29: 1429-1433 (Oct. 1958). (4303)

Employing concepts first applied to textile fibers by Meyer and Lotmar in calculating the elastic stretch modulus of the crystalline domain of cellulose, the moduli of crystalline polyhexamethylene adipamide (alpha form) and polyethylene terephthalate have been derived. 11 references.

TEXTILE APPLICATIONS OF NONIONIC SURFACTANTS. G. M. Gantz and W. G. Sumner (Gen. Aniline & Film Corp.). Am. Dyestuff Reptr. 47: P733-P737 (Oct. 20, 1958). (4304)

The structure and properties of various classes of nonionics are discussed briefly. Performance characteristics in terms of wet-processing operations are considered in detail. Physicochemical principles involved in many textile applications are emphasized. Recent developments are discussed from the standpoint of new textile requirements as well as new types of surfactants. Graphs. Diagrams. Tables. 24 references.

PHYSICS G 2

CHEMICAL AND PHYSICAL CHANGES IN GAMMA-IRRADIATED PLASTICS. R. Harrington and R. Giberson. Modern Plastics 36: 199-221, 314-317 (Nov. 1958). (4305)

Several plastics were irradiated in a gamma radiation source at various doses. Of these materials classified as polycarbonates, polyethylenes, polyfluorocarbons, polyesters, polystyrenes, and polyvinyl chlorides, the aromatic-containing carbonate, polyester, and styrene materials were found to be the most resistant to the damaging effects of radiation as reflected in both chemical and physical property changes. Diagrams. Graphs. Tables. 18 references.

FRICTION AND ABRASION OF RUBBER. A. Schallamach (Brit. Rubber Producers' Research Assoc.). Wear 1: 384-417 (1957/58). (4306)

The friction and abrasion of rubber are discussed under the headings: velocity and temperature dependence of rubber friction, load dependence of rubber friction on smooth surfaces, stress concentrations on rubber surfaces, surface condition of abraded, filled rubber compounds, intrinsic abrasion, the abrasion pattern, and friction on rough surfaces. Graphs. Tables. Microphotographs. 27 references.

FRICTION, LUBRICATION, AND WEAR OF SYNTHETIC FIBERS. D. Tabor (Cambridge Univ.). Wear 1: 5-24 (1957/58). (4307)

Part 1. The frictional properties of fibers and polymers. Part 2. The frictional wear of fibers and polymers. Part 3. Boundary lubrication of fibers. Part 4. Hydrodynamic factors in the lubrication of yarns. Graphs. Diagrams. Tables. Photomicrographs. 22 references.

NUCLEAR ENERGY IN TEXTILE TECHNOLOGY. W. A. Newell. Can. Textile Seminar Papers 6: 32-35 (1958). (4308)

Possible textile applications of nuclear energy are briefly considered. The radioisotope laboratory of the School of Textiles, North Carolina State College is described.

NUCLEAR RADIATION EFFECTS ON MATERIALS. G. Reinsmith. ASTM Bull. No. 232: 37-47 (Sept. 1958). (4309)

Review of basic principles and summary of current knowledge. Includes information on effect on polymers. 43 references.

BIOLOGY G 3

PHYSIOLOGICAL AND BIOLOGICAL PROPERTIES OF APO AND APS COTTON FLAME RETARDANTS: A LITERATURE REVIEW, WITH BIBLIOGRAPHY. G. L. Drake, Jr., B. M. Kopacz, and F. S. Perkerson (So. Reg. Research Lab.). U.S. Agri. Research Serv., Washington 25, D.C., Sept. 1958. 12 p. ARS 72-14. (4310)

A review, with 68 references.

MISCELLANY H

THE PROGRESSIVE SEWING ROOM. 2d ed. B. Frank. Fairchild Publications, Inc., 7 East 12 Street, New York 3, N.Y. 1958. 240 p. $6.50. (4311)

The text is divided into five major subjects: a technical history of the industry; a full description of ten basic methods of manufacture ranging from complete garment production to developed bundle and compromise systems; the general scheme of the factory area; an analysis of the current method and the installation of improvements; development of the new plan, training of old and new employees, supervision, and a discussion of production, quality, and cost control.

FIBERS ON POSTAGE STAMPS. A. H. Haynes. Fibres 19: 257-259 (Aug. 1958). (4312)

SOME CONCEPTS OF COTTON RESEARCH. G. S. Buck, Jr. (Nat. Cotton Coun. of Am.). Textile Research J. 27: 778-783 (Sept. 1958). (4313)

The cotton industry has pointed its research programs at two of the fundamentals of competition: price and quality. Research which lowers cost can lead to a more competitive price. Research which improves quality or develops entirely "new" qualities increases the usefulness of cotton. Tables.

MODERNIZE NOW FOR GROWTH AND PROFITS. Textile World 108: 49-87 (Oct. 1958). (4314)

In this special report, case studies in all areas of textile processing and finishing are presented to show what is being done by mills for growth and profits.

GROWTH AND POSITION OF WORLD COTTON INDUSTRY. W. S. Montgomery, Jr. (Spartan Mills). Am. Textile Reptr. 72: 51-55, 79-81 (Aug. 21, 1958). (4315)

Observations made during a year's tour of textile mills in countries around the world.

VOCABULARY OF TECHNICAL TERMS USED IN THE TEXTILE AND RELATED INDUSTRIES: ENGLISH-FRENCH, FRENCH-ENGLISH, ENGLISH-GERMAN, GERMAN-ENGLISH. Imp. Chem. Inds. Ltd, Dyestuffs Div., Hexagon House, Blackley, Manchester 9, England, 1958. 103 p. (4316)

THE TEXTILES STUDENT'S MANUAL. 4th ed. T. Welford. Sir Isaac Pitman & Sons Ltd, London, 1957. 215 p. $2.95. (4317)

This book is written primarily for the student and outlines textile processes from the origin of the fiber through the finished cloth.

BOOKS ABOUT TEXTILES: A CLASSIFIED LIST OF RECENTLY PUBLISHED LITERATURE. A. F. Kertess. Dyer 120: 95-97 (July 18, 1958). (4318)

PROBLEM OF TERMINOLOGY IN THE TEXTILE INDUSTRY. W. Bobeth. Deut. Textiltech. 8, No. 6: 280-282 (1958). In German. Through BCIRA 38: 555 (1958). (4319)

The importance of work on establishing a uniform terminology is pointed out, with reference to its particular advantages in the field of documentation, science and research, trade, translation services, etc.

TECHNOLOGICAL DEVELOPMENT IN TEXTILES: INTERNATIONAL VIEW. Fibres 19: 283-286 (Sept. 1958). (4320)

An overall picture of recent progress in automation in the textile industry is presented. The material was taken from a report prepared by the International Labor Organization Secretariat for the sixth session of its Textile Committee in Geneva.

PATENT CHECKLIST

U.S. patents may be obtained from the U.S. Patent Office, Washington, 25, D.C., for 25¢ a copy. Photostatic copies of foreign patents are also available. Charges for these photostats are based on the number of pages in the patent.

PATENTS: FIBERS/YARN PRODUCTION
Abstr. 4321 - 4326

PATENTS: YARN PRODUCTION
Abstr. 4327 - 4331

FIBERS A

MAN-MADE FIBERS A 2

IMPROVED PROTEIN FIBERS. H. S. Jenkins, J. R. Magee, Jr., H. S. Morgan, Jr., and B. M. Saffian (to Va.-Carolina Chem. Corp.). USP 2 845 362, July 29, 1958. (4321)

Wet method process for producing prolamine fibers, e.g. zein, in the 2 to 200 denier range with superior chemical resistance, dyeability, and tenacity.

ALL SKIN VISCOSE RAYON. M. R. Lytton (to Am. Viscose Corp.). USP 2 849 274, Aug. 26, 1958. (4322)

COPOLYMER FIBER. R. A. Hayes and F. A. Bozzacco (to Firestone Tire & Rubber Co.). USP 2 849 419, Aug. 26, 1958. (4323)

Claimed is a graft copolymer produced by polymerizing a polyacrylate of a saturated monohydric alcohol on polymeric vinylidene chloride resin.

POLYACRYLONITRILE THREADS WITH IMPROVED ABRASION RESISTANCE. E. Pirot (to Vereinigte Glanzstoff Fabriken AG). USP 2 851 435, Sept. 9, 1958. (4324)

The addition of polyvinyl acetate and polyvinyl ethyl ether to the spinning solution is claimed.

YARN PRODUCTION B

STAPLE CUTTER. K. H. Anthony and E. J. Marasko (to Industrial Rayon Corp.). USP 2 851 103, Sept. 9, 1958. (4325)

Apparatus in which draw wheels with slotted flanges are used for feeding the filaments to a cutting device that is synchronized to pass through the rotating slots.

TEXTILE FIBER LUBRICANTS. M. Elton and P. A. Winsor (to Shell Develop. Co.). USP 2 853 453, Sept. 23, 1958. (4326)

Emulsifiable concentrate consisting of a major proportion of a mineral lubricating oil and minor proportions of an oil-soluble organic sulfonate, an oil-soluble nonionic emulsifier, and a nitrogenous emulsifier.

HOMOGENEOUS BLENDING OF FIBROUS MATERIALS. W. A. Hunter and F. Singleton (to T. M. M. (Research) Ltd). USP 2 851 737, Sept. 16, 1958. (4327)

The method consists in vertically stacking the fibrous materials to be blended, feeding the material from the bases of the stacks in the form of loosely compacted sheets, and progressively pulling tufts from the sheets in a horizontal direction to form new layers.

OPENING, PICKING, FIBER PREPARATION B 1

OPENERS FOR COTTON OR OTHER FIBERS. J. Lighthill. BP 797 680, July 9, 1958. Through BCIRA 38: 499 (1958). (4328)

An opener of the type in which an endless conveyor carries the lumpy cotton against a series of saw-toothed rollers, rotating in the same direction at the back of a working chamber, is fitted with impellers (rectangular or shaped like aeroplane propellers) at the ends of the rollers so as to rotate close to the side walls of the chamber.

COTTON FIBER CLEANER. M. Mayer, Jr. and J. I. Kotter (to U.S. Secy. Agri.). USP 2 848 754, Aug. 26, 1958. (4329)

Apparatus for removing trash which is heavier than the fibers from ginned cotton.

CARDING AND COMBING B 2

FEEDER FOR A CARDING MACHINE. Vyzkumny Tvarecich Stroju. BP 798 328, July 16, 1958. Through BCIRA 38: 499 (1958). (4330)

The feeder is of a common endless spiked lattice type but the rather intricate weight-control mechanism is dispensed with. The drive for the lattice includes a clutch that is engaged and disengaged at regular intervals for periods that can be adjusted.

DRIVE FOR A SET OF CARDS. G. H. C. Schlese (to Spinnbau GmbH). USP 2 847 716, Aug. 19, 1958. (4331)

Drive which, in spite of a number of single drive shafts, makes possible synchronous starting, stopping, and delivery of the entire set.

PRODUCING CARPET YARN HAVING A VARYING WEIGHT PER UNIT LENGTH. J. Jervis (to James Lees & Sons Co.). USP 2 847 717, Aug. 19, 1958. (4332)

A special doffer is substituted for the conventional doffer of a carding machine, so that a yarn sliver of varying weight per unit length is produced.

CARD CLOTHING. E. V. Caille (to Howard Bros. Mfg. Co.). USP 2 848 755, Aug. 26, 1958. (4333)

Pile fabric foundation for card clothing throughout which the teeth of the clothing are interspersed.

CARD CLOTHING GRINDING HEAD. E. A. Snape, Jr. USP 2 849 844, Sept. 2, 1958. (4334)

FOUNDATION WIRE FOR CARD CYLINDER METALLIC CLOTHING. J. D. Hollingsworth. USP 2 851 736, Sept. 16, 1958. (4335)

The foundation for the metallic clothing has a radial thickness which is designed to maintain a standard overall cylinder diameter.

DRAWING AND ROVING B 3

WOOL DRAWING FRAME NEEDLE BAR MECHANISM. J. S. Dudley (to Whitin Mach. Works). USP 2 847 718, Aug. 19, 1958. (4336)

Arrangement for protecting needles against damage due to fiber accumulation, and to facilitate the removal of such accumulation.

GILL BOX STOP MOTION. J. H. Selby (to Warner & Swasey Co.). USP 2 847 719, Aug. 19, 1958. (4337)

Mechanism in drafting roll section of a gill box for detecting any objectionable increase in sliver thickness and automatically stopping operation in response to such variation.

GILL BOX ABUTMENT SPRING TENSIONING. J. Kaiser (to Chr. Mann Maschinenfabrik). USP 2 849 754, Sept. 2, 1958. (4338)

AUTOMATIC VACUUM CLEANERS FOR DRAWING FRAMES. T. J. Comber. USP 2 851 738, Sept. 16, 1958. (4339)

Combination of suction nozzles which act intermittently at automatically timed intervals, so as to effect economy of air flow.

SPINNING, WINDING, TWISTING B 4

TRAVELING PNEUMATIC CLEANER FOR SPINNING FRAMES. F. N. Becker and C. deV. Miller (to Am. Mono-Rail Co.). USP 2 851 716, Sept. 16, 1958. (4340)

The air velocity in this apparatus is proportioned so that an air stream of low inertia is directed towards the comparatively weak roving and a stream of higher inertia towards the stronger yarn.

FLYER ASSEMBLY FOR SPINNING OR TWISTING MACHINES. K. Ward (to Fairbairn Lawson Combe Barbour Ltd). BP 797 214, June 25, 1958. Through BCIRA 38: 500 (1958). (4341)

The invention relates to simple mounting and driving means for a flyer. This comprises a leg member, a wharve and a hand grip, the wharve being joined to the other pieces by a screwed coupling or spigot joint. The joints also hold the inner tracks of ball or roller bearings.

DRAFTING MECHANISM. SKF Kugellagerfabriken GmbH. BP 797 916, July 9, 1958. Through BCIRA 38: 500 (1958). (4342)

The top drafting rollers are carried by a pivoted weighting arm that is held in operative position by a catch mechanism the operating member of which can be located in one position where the catch is locked and load is applied, or in a releasing position.

FLUID PRESSURE DEVICE TO LOAD SIMULTANEOUSLY PRESSING ROLLERS FOR DRAFTING FRAMES. G. Fontana. BP 798 562, July 23, 1958. Through BCIRA 38: 500 (1958). (4343)

A box-like arm is pivotally mounted at the rear of a drafting head on a spinning frame and extends from the rear to the front of the head. The upper part of the arm is formed into a pressure chamber by means of a rubber diaphragm with which members for transmitting pressure to the top rollers are in contact. The chamber is connected with a supply of compressed air.

SUCTION DEVICE FOR REMOVING LINT FROM SPINNING MACHINES. E. Jacobi and F. Rösele (Germany). USP 2 849 852, Sept. 2, 1958. (4344)

Suction pipes are arranged parallel to the drafting rolls and are supported by a snap-type locking device.

CLEANER FOR SPINNING RING TRAVELERS. W. L. Francis. USP 2 849 853, Sept. 2, 1958. (4345)

TOP DRAFTING ROLL. J. Noguera (to Casablancas High Draft Co. Ltd). USP 2 850 770, Sept. 9, 1958. (4346)

Top roll weighting and supporting arm adapted for removable engagement on a pivotal mounting at the rear of the mechanism.

SPINNING RING. A. J. Wayson (to Merriman Bros.). USP 2 850 866, Sept. 9, 1958. (4347)

Self-lubricating porous ring so designed that the heat generated by the traveler will cause oil to pass readily through the ring as soon as the traveler begins to move.

TWISTING SPINDLE BALLOON CONTROL. A. W. Vibber. USP 2 851 848, Sept. 16, 1958. (4348)

MACHINE FOR REMOVING DEPOSITS OF LINT FROM CLEANING ROLLERS OF SPINNING MACHINES. G. V. Fowler. USP 2 852 792, Sept. 23, 1958. (4349)

YARNS B 5

TWISTING AND CRIMPING OF FILAMENTS. J. P. Russell, E. Stutchfield, D. F. Arthur, and J. R. Myers (to Brit. Nylon Spinners Ltd). BP 797 051, June 25, 1958. Through BCIRA 38: 500 (1958). (4350)

The invention relates to a false-twist device that can impart a number of turns to the filament yarn for each turn of the rotating tube. It is further characterized by having the bore (or at least an end portion) lined with a nonabrasive material of high coefficient of friction against the yarn, e.g. a bushing of natural rubber filled with carbon black.

CRIMPED NYLON MONOFILS. L. Pownall (to Brit. Nylon Spinners Ltd). BP 797 253, June 25, 1958. Through BCIRA 38: 501 (1958). (4351)

Two nylon monofils are crimped simultaneously by passing them side by side through a false-twist device preceded or followed immediately by a heat treatment to set the deformations.

NYLON YARN. L. Pownall (to Brit. Nylon Spinners Ltd). BP 797 658 and 797 659, July 9, 1958. Through BCIRA 38: 501 (1958). (4352)

(1) Nylon yarn is twisted to at least 30 tpi and knitted on a circular machine into a tube, which is allowed to relax into a spiral and is heated (with a swelling agent if desired) to set the twist. The tube is then unravelled, giving crimped nylon yarn of attractive softness. (2) Nylon yarn is continuously run through a multiple pin tensioner so as to adjust the tension to 5–10 g, heated by contact with a hot plate, fed into a false-twist device, and then run over or around a polished roller to impart a slipping overdrive of 0.5 to 5% and reduce the tension to 5–10 g before the crimped yarn is wound into a package for knitting.

CORD MANUFACTURE. C. J. Gonsalves (to Am. Enka Corp.). USP 2 847 817, Aug. 19, 1958. (4353)

Apparatus for producing high tensile strength cord from two threads twisted in the same direction by separately tensioning the threads after they are withdrawn from their packages and before they are plied, and drawing off the plied cord under tension.

PILE YARN AND FABRIC. D. F. McCullough and A. F. McNally (to Collins & Aikman Corp.). USP 2 849 785, Sept. 2, 1958. (4354)

Pile fabric prepared from looped pile yarn in which the core and outer plies of a yarn are twisted together to form firmly held core loops when the yarn is shrunk.

METHOD AND APPARATUS FOR PRODUCING BULKY CONTINUOUS FILAMENT YARN. A. L. Breen (to E. I. du Pont de Nemours & Co.). USP 2 852 906, Sept. 23, 1958. (4355)

Continuous filament yarn of bulk equal to that of comparable staple yarn is produced by feeding filament bundles into a turbulent fluid stream so that the individual filaments are separated and whipped about to form loops and other convolutions, removing the filaments, and reassembling them without tension into yarn.

DECORATIVE ROPING OR SLIVER. R. D. Merrill (to Union Wadding Co.). USP 2 851 849, Sept. 16, 1958. (4356)

Sections of lap of different kinds and appearances are condensed into a single sliver and then twisted to give an ornamental effect.

ELASTIC YARN AND FABRIC. O. Engelhard (to Native Laces & Textiles Inc.). USP 2 852 834, Sept. 23, 1958. (4357)

An elastic fabric is made from yarn formed by stretching an elastic yarn to a relatively fine gage and then spirally winding an inelastic yarn around it.

FABRIC PRODUCTION C

ELASTIC FABRIC BRAIDING MACHINE. W. E. Kelley and L. Thibert (to Providence Braid Co.). USP 2 847 897 and 2 847 898, Aug. 19, 1958. (4358)

Stop motion which, upon breakage or exhaustion of an elastic thread, acts to sever the nonelastic thread, thus causing the machine to stop.

WARPING, SLASHING, YARN PREPARATION C 1

YARN CLEARING ARRANGEMENTS. P. Wilson (to William Hollins & Co. Ltd). BP 796 591, June 18, 1958. Through BCIRA 38: 466 (1958). (4359)

The invention relates to a photoelectric device for detecting thick places in a running yarn (e.g. slubs) and abnormally thin places, coupled with an audible or visual signal worked by an electromagnetic relay, which also operates a counting device and a cutter. The illustrations include a circuit diagram.

COP FORMING METHODS AND MACHINES. J. C. Motte (to Etienne Motte Fils et Cie). BP 797 382, July 2, 1958. Through BCIRA 38: 502 (1958). (4360)

A method for the winding of cops continuously over a common spindle consists in forming a gap between the successive cops through a relative movement of the cop that has just been completed with reference to the spindle or funnel, cone or like winding member serving both for shaping the cop and shifting it along the spindle. The yarn is cut between the successive cops before doffing.

YARN BOBBINS OR SPOOLS. A. T. J. Langhorn. BP 797 926, July 9, 1958. Through BCIRA 38: 503 (1958). (4361)

A bobbin or spool for large packages has replaceable flanges of resin-impregnated plywood reinforced by metal plates. The flanges are so secured to the barrel that they are clamped between it and the plates.

SLASHER NIP ROLL ARRANGEMENT. A. C. Adams. USP 2 849 784, Sept. 2, 1958. (4362)

Nip roll arrangement which permits both uniform distribution of size and detection and removal of yarn lap-ups.

WARPING. Algemene Kunstzijde Unie NV. BP 797 700, July 9, 1958. Through BCIRA 38: 503 (1958). (4363)

The invention relates to a method of preparing warp beams from primary packages of yarns of manmade fibers so that more uniform results are subsequently obtained in dyeing. The packages are run off until the length required on the beam is reached, all the ends being formed into a band in which each end comes from a corresponding part of each package. The next lengths from the packages are then formed into a second band, and so on. The bands are then wound on to the warp beam in the same sequence.

TRAVERSING REEL. Kalle & Co. AG. BP 798 483, July 23, 1958. Through BCIRA 38: 502 (1958). (4364)

The invention relates to a reel of the type in which the surface for traversing yarn in a series of helical turns is constituted by a number of rollers arranged obliquely about the reel.

FLUID PROCESS FOR TREATING VISCOSE RAYON YARN PACKAGES. F. E. Campbell (to E. I. du Pont de Nemours & Co.). USP 2 847 750, Aug. 19, 1958. (4365)

Process for forming a wound beam from bucket cakes of yarn without intermediate coning, drying, or desulfurization.

WINDING MACHINE TRAVERSE MECHANISM. F. Hebberling (to E. I. du Pont de Nemours & Co.). USP 2 848 173, Aug. 19, 1958. (4366)

Traverse mechanism for winding yarns onto cylindrical or tapered tubes, by either precision or random-wound operation, at supply speeds of 6000 yd/min.

NYLON SIZING AGENT. A. F. Harris (to Monsanto Chem. Co.). USP 2 848 357, Aug. 19, 1958. (4367)

Sizing agent consisting of a terpolymer of vinyl acetate, maleic anhydride, and styrene.

FLOATING BOTTOM YARN TRUCK. N. W. Eurey (to Excel Inc.). USP 2 850 203, Sept. 2, 1958. (4368)

YARN LENGTH MEASURING DEVICE FOR WINDING MACHINES. W. Gollos (to Vereinigte Glanzstoff Fabriken AG). USP 2 852 848, Sept. 23, 1958. (4369)

Device which measures yarn length and automatically stops the winding operation when a predetermined length of yarn has been wound.

WEAVING C 2

LADDER WEBBING. M. Stephenson and J. Sellers (to Thomas French & Sons Ltd). BP 797 133, June 25, 1958. Through BCIRA 38: 504 (1958). (4370)

In the weaving of ladder webbing in which the cross straps are held to the main bands by the weft for the bands, the weft is laid, at the overlapping portions of two consecutive cross straps, first in one strap and then in the other alternately, in groups of at least three picks. The weft trails between the groups are cut out as weaving proceeds.

SHUTTLES. H. Heap and F. Wilkinson. BP 798 098, July 16, 1958. Through BCIRA 38: 503 (1958). (4371)

The claim is for a self-threading shuttle in which an unrestrained ball, located in a bore through which the yarn passes, is used as tensioning device.

BOBBIN CHANGING MECHANISMS FOR DOUBLE-SHUTTLE LOOMS. Georg Fischer AG. BP 798 345, July 16, 1958. Through BCIRA 38: 503 (1958). (4372)

The invention relates to means on the crank-shaft for raising or lowering the bobbin magazine so that it can serve either the upper or lower shuttle box of a double-shuttle loom on which superposed warp sheds are picked simultaneously.

AUTOMATIC BOBBIN CHANGING MECHANISM FOR LOOMS. Maschinenfabrik Rüti AG. BP 798 711, July 23, 1958. Through BCIRA 38: 503 (1958). (4373)

The mechanism has at least two bobbin supply ways that open into a common channel leading to the bobbin change position. The supply ways can receive bobbins from magazines each of which is shaped to hold a single row of wound bobbins and capable of connecting with the supply ways to permit individual removal and exchange of the magazines.

PICKER STICK CHECK. C. M. Smith. USP 2 848 017, Aug. 19, 1958. (4374)

Check which retards the picker stick before it reaches the end of its travel to protect it against damage in striking the lay.

WIRE CLOTH SELVAGE FORMING MECHANISM. C. E. Webber and L. K. Watson, Jr. (to N. Y. Wire Cloth Co.). USP 2 849 029, Aug. 26, 1958. (4375)

PICKER STICK CHECK. H. H. McClamroch. USP 2 851 062, Sept. 9, 1958. (4376)

Check which does not become overheated during loom operation is claimed.

KNITTING C 3

TRANSFER KNITTING OF HOSIERY. C. W. Minton (to May Hosiery Mills). USP 2 847 838, Aug. 19, 1958. (4377)

Method of transfer knitting which permits knitting of a ribbed top followed by a plain foot portion on the same machine and without materially changing the outward appearance of the fabric.

HAND KNITTING MACHINE. M. Lehner-Stirnemann (Switzerland). USP 2 847 839, Aug. 19, 1958. (4378)

KNITTING MACHINE LUBRICATION. K. Dörrer (to Forschungsinst. für Textiltechnologie). USP 2 850 887, Sept. 9, 1958. (4379)

Device for applying lubricant to the draw cam or Coulier cam of a straight bar knitting machine.

METHOD OF MAKING CONTOURED FULL-FASHIONED HOSIERY. M. M. Lihn (to Clementon Hosiery Mill). USP 2 847 840, Aug. 19, 1958. (4380)

YARN CARRIER FOR FULL-FASHIONED HOSIERY KNITTING MACHINE. E. A. Feustel. USP 2 847 841, Aug. 19, 1958. (4381)

In a carrier in which a fine bore thread-guiding tube is removably mounted in a carrier finger, the tube is so mounted that it will not break as a result of impact with a sinker.

KNITTING MACHINE NEEDLE. C. W. Minton (to Torrington Co.). USP 2 849 872, Sept. 2, 1958. (4382)

Needle hook construction for preventing the loop last formed from escaping until the succeeding stitch is taken.

SELVAGE CONTROL MECHANISM FOR STRAIGHT BAR KNITTING MACHINES. E. Start and P. G. McCarthy (to William Cotton Ltd). USP 2 849 873, Sept. 2, 1958. (4383)

CIRCULAR KNITTING MACHINES. A. Shortland (to Mellor Bromley & Co. Ltd). USP 2 850 886, Sept. 9, 1958. (4384)

Mechanism for effecting changes in the position of movable cams which eliminates the need for using multiple rotary drums or other controls.

LACE MACHINERY. H. L. Pycroft and S. Reader (to Newton & Pycroft Ltd). USP 2 850 938, Sept. 9, 1958. (4385)

Warp guide for bobbinet lace machine which makes it possible to manufacture such machines in widths greater than the usual 120 in.

LUBRICATOR FOR CIRCULAR KNITTING MACHINES. C. N. H. Remick (to Hemphill Co.). USP 2 852 099, Sept. 16, 1958. (4386)

FABRICS C 4

FABRIC WITH UNDULATION EFFECTS. Heberlein & Co. AG. BP 796 933, June 25, 1958. Through BCIRA 38: 503 (1958). (4387)

A "smocked" crepe fabric is woven with tensioned yarns that have been made highly elastic by crimping their filaments (e.g. nylon). The fabric is then subjected to a wet treatment that causes these yarns to shrink by 30-70%. Typical examples have cotton warps and crimped nylon wefts or a mixture of cotton and nylon weft picks.

BELT MATERIALS OF THE LAMINATED TYPE. Textile & Chem. Research Co. Ltd. BP 797 702, July 9, 1958. Through BCIRA 38: 504 (1958). (4388)

The belt is made up of layers of rayon cord fabric held together by a flexible material such as rubber. The cord yarns run transversely of the belt in the outer plies but longitudinally in the inner plies.

PILE FABRICS. D. Finlayson, B. Krzesinski, and A. W. M. Cooke (to Brit. Celanese Ltd). BP 797 135, June 25, 1958. Through BCIRA 38: 504 (1958). (4389)

The pile is provided by a yarn in which the twist is set by increasing the crystallinity of the fibers (cellulose triacetate, nylon, and polyester types). The denier of the yarn ranges from 2,500 to 10,000 and the twist from 2 to 8 tpi.

ELASTIC WOVEN FABRICS. V. Amarotico (Germany). BP 797 254, June 25, 1958. Through BCIRA 38: 504 (1958). (4390)

In the weave, at least in one direction, both nonelastic yarns (e.g. wool) and elastic yarns of manmade fibers (e.g. nylon) are used in such a way that in the relaxed state the nonelastic yarns are crimped and completely cover the elastic yarns. The example describes a gabardine for winter sports wear.

WEAVING OF FAST LASHED-PILE CORDUROY OR OTHER WEFT PILE FABRICS. J. Lees (to Eli Lees & Co. Ltd). BP 797 293, July 2, 1958. Through BCIRA 38: 504 (1958). (4391)

The ground ends are of the normal coarse counts but the lashing ends are much finer and drawn through the reed more ends to a dent. The lashing ends are treated as separate units during insertion of the pile picks but two ends are treated as one during the weaving of the back picks, so that the back may be of a twill, jean, plain, or tabby weave.

FIRE HOSE. D. E. F. Canney, A. E. Jackson, and A. W. Dickinson (to George Angus & Co. Ltd). BP 798 309, July 16, 1958. Through BCIRA 38: 504 (1958). (4392)

The casing is woven on a circular loom from mildew-resistant yarns and there are two sets of warps, one conferring tensile strength and the other resistance to abrasion.

VELVET CARPET FABRIC. R. C. Gebert (to James Lees & Sons Co.). USP Reissue 24 539, Sept. 23, 1958. Original No. 2 708 457, May 17, 1955. (4393)

Velvet carpet in which the density of the pile varies so that weftwise and warpwise rows of loops are not readily apparent.

INFLATABLE MATTRESS FABRICS. C. E. Neisler, Jr. (to Neisler Bros.). USP 2 848 018, Aug. 19, 1958. (4394)

Inflatable mattress fabric formed from a pair of fabrics spaced apart a distance greater than the width of the series of gages on the loom used in making the fabric.

WILTON-TYPE CARPET. R. B. Patterson and H. J. Smiley (to James Lees & Sons Co.). USP 2 849 030, Aug. 26, 1958. (4395)

Carpets with superior wear and strength characteristics are constructed by a 2-shot weave in which each pile yarn is carried through to the back and tied under one bottom shot and then to the face between successive top and bottom shots.

PHOTOSENSITIVE GLASS FABRIC. A. Eichorn (to Screen Eng. Co.). USP 2 848 327, Aug. 19, 1958. (4396)

Dimensionally stable, light transmitting, photosensitive material for copying drawings consists of a resin-impregnated woven glass fabric coated with a silver halide photographic emulsion.

INDUSTRIAL PROTECTIVE CLOTHING FABRIC. T. H. Ashley and G. Gee (to James North & Sons Ltd). USP 2 849 786, Sept. 2, 1958. (4397)

Plastic coated fabrics for use in industrial clothing have a raised pattern of loops so spaced that they hold extra coating material to give reinforcement and anti-slip properties.

REINFORCED TEAR-RESISTANT PARACHUTE MATERIAL. R. P. Lappala (to Griffolyn Co.). USP 2 851 389, Sept. 9, 1958. (4398)

Material suitable for parachutes consists of two synthetic resin films laminated together by means of an adhesive in which is embedded a grid of only slightly twisted strands of a synthetic fiber roving.

VENTILATED WATERPROOF FABRIC. M. A. Chavannes. USP 2 851 390, Sept. 9, 1958. (4399)

Fabric made up of several layers of perforated coated fabrics or plastic materials which are bonded to each other to permit air to flow through while preventing the transmission of moisture.

METHOD AND APPARATUS FOR FORMING AN ADHESIVE TYPE SELVAGE. R. D. Wood, Jr. and C. T. Gould (to Millville Mfg. Co.). USP 2 852 407, Sept. 16, 1958. (4400)

PILE CARPET. C. C. Mincher and P. A. Endriss (to Hardwick & Magee Co.). USP 2 853 103, Sept. 23, 1958. (4401)

Wilton-type weave in which the normally open spaces above the upper filling layer are covered by use of three sets of warp yarns.

FINISHING AND CHEMICAL PROCESSING D

WET TREATMENT APPARATUS. E. E. Bellmann, R. Kronsbein, and F. Bellmann (Germany). BP 796 247, June 11, 1958. Through BCIRA 38: 479 (1958). (4402)

The invention relates to the dyeing and other wet treatments of fabric on perforated beams and seeks to prevent the liquor from escaping sideways from between the layers in the roll. Strips of flexible but impervious material are attached to the selvages at the ends of the length of fabric and rolled up with it. The free ends of the strips are clamped to the beam and thus create hollow sealing spaces at the ends of the roll.

RADIALLY COMPRESSIBLE ELASTIC HOLDER FOR YARN PACKAGES DURING WET AND DRY PROCESSING. G. Tigges (Germany). USP 2 853 253, Sept. 23, 1958. (4403)

FABRIC WIDTH GAGE. L. W. Scheu (to Firestone Tire & Rubber Co.). USP 2 848 815, Aug. 26, 1958. (4404)

Apparatus for automatically and continuously recording the width of a continuous fabric passing through a treating apparatus.

CHEMICAL PROCESSES D 1

APPARATUS FOR THE BOARDING OF DYED NYLON STOCKINGS. L. Girling and M. J. Andrew. BP 794 718, May 7, 1958. Through BCIRA 38: 402 (1958). (4405)

The aperture through which the stockings on their formers enter the steam chest is closed by a sliding door within the chest. This is operated by means of a switch and a cam, pneumatic or electromagnetic device, and as it closes the steam and air are automatically admitted. After a predetermined period the steam is exhausted and the fall in pressure allows the door to open.

METHOD OF METALIZING TEXTILES. Heberlein & Co. AG. BP 796 138, June 4, 1958. Through BCIRA 38: 440 (1958). (4406)

Textile fabrics (especially cellulosic) are exposed to the vapor of a metal (e.g. aluminum or copper followed by gold) in a high vacuum and then heated to 120-190° C to increase the adhesion of the metal. Preferably, the fabric is first impregnated with a resin. Details of various decorative effects on cotton and rayon fabrics are given in 13 examples.

WATERPROOFING PROCESS. Monsanto Chemicals Ltd. BP 796 140, June 4, 1958. Through BCIRA 38: 441 (1958). (4407)

Porous materials (e.g. cotton fabrics) are treated with an aqueous solution of a salt of lead or thorium, dried, then immersed in a solution of a silicone in an organic solvent containing a polymerization catalyst (e.g. butyl titanate), and finally wrung out and dried. The order of applications may be reversed.

PROCESS FOR WATERPROOFING. Monsanto Chemicals Ltd. BP 796 141, June 4, 1958. Through BCIRA 38: 441 (1958). (4408)

Porous materials (e.g. cotton fabrics) are treated with an aqueous solution of an alkali siliconate, e.g. $MeSi(OH)_2ONa$, and with a solution in an organic solvent of a silicone plus a polymerization catalyst. The two agents may be applied in either order.

MACHINE FOR SHRINKING KNITTED FABRICS. K. I. J. Rosén and S. G. Andersson (Sweden). USP 2 849 781, 2 849 782, and 2 849 783, Sept. 2, 1958. (4409)

Knit fabric is exposed to the action of steam while it is led between a pair of sets of endless helical springs which, as they are unwound from the end of one roller, are led via pulleys to the end of a second roller. The springs retain a firm but gentle grip on the fabric throughout the steaming, permitting simultaneous shrinkage in both longitudinal and transverse directions. The rollers are driven at progressively slower speeds in the direction of travel of the fabric.

PROCESS OF BLEACHING CELLULOSE. Deutsche Gold & Silber Scheideanstalt. BP 796 619, June 18, 1958. Through BCIRA 38: 478 (1958). (4410)

The exposed parts of apparatus for bleaching by means of chlorite liquors are made of a Ni-Cr-Mo-Fe alloy. Analyses of two suitable alloys are given.

AMINOPLAST PRECONDENSATE FOR THE TREATMENT OF CELLULOSIC MATERIALS. G. C. Daul (to Courtaulds Inc.). BP 796 815, June 18, 1958. Through BCIRA 38: 480 (1958). (4411)

A compound containing at least two NH_2 groups (urea, melamine, guanidine, dicyandiamide) or a mixture of such compounds is made to react first with epichlorhydrin and then with formaldehyde to give a stable, water-soluble resinous precondensate for use in finishing viscose fiber, yarns, and fabrics.

CONTINUOUS WASHER. F. B. Morrill (to James Hunter Mach. Co.). USP 2 846 862, Aug. 12, 1958. (4412)

Arrangement in which two bowls are served by three squeeze rolls disposed in a single set, instead of four squeeze rolls disposed in two sets.

HOSIERY PRESETTING APPARATUS. C. Kronsbein (Germany). USP 2 848 146, Aug. 19, 1958. (4413)

Apparatus for presetting, washing, and drying hosiery without permanent shrinkage or impairment of the mesh structure.

YARN RESIN IMPREGNATION. H. S. Daley (to Specialties Develop. Corp.). USP 2 848 354, Aug. 19, 1958. (4414)

Apparatus for resin impregnation of yarns (for use in the manufacture of high pressure receptacles) which eliminates air entrapment in the resin impregnated yarn.

CHEMICALLY MODIFIED WOOL. J. E. Moore and C. E. Pardo, Jr. (to U.S. Secy. Agri.). USP 2 850 351, Sept. 2, 1958. (4415)

Chemically modified keratin, particularly wool, is prepared by reacting reduced keratinous materials with cross-linking polyamides or polyimides.

YARN LIQUID TREATMENT APPARATUS. R. H. Snyder (to Industrial Rayon Corp.). USP 2 850 889, Sept. 9, 1958. (4416)

Frusto-conical device for applying liquid to a yarn being advanced as a helix over a yarn advancing mechanism.

FIREPROOFING OF CELLULOSIC TEXTILES. J. D. Broatch (to Brit. Jute Trade Research Assoc.). USP 2 852 414, Sept. 16, 1958. (4417)

Flameproofing finish with high resistance to leaching consists of a combination of antimony phosphate with a chlorine-containing vinyl resin.

DYEING AND PRINTING D 2

MULTICOLOR ATTACHMENT TO THE PRINT ROLLER IN ROLLER PRINTING. R. K. Sinejda. BP 794 404, May 7, 1958. Through BCIRA 38: 401 (1958). (4418)

The invention relates to means for feeding (by gravity) various printing pastes to one horizontal printing roller as desired. It consists of a series of narrow compartments, say 1/8 in. to 3 in. wide, mounted side by side in a metal frame that fits into the brackets for the conventional color pan. Where they confront the roller, they are shaped to its contour.

DYEING PROCESS FOR POLYESTER FIBERS. R. L. Denyer and H. R. Hadfield (to Imp. Chem. Inds. Ltd). BP 795 392, May 21, 1958. Through BCIRA 38: 439 (1958). (4419)

Terylene and the like are treated under pressure (e.g. at 130° C) in a suspension of vat dyes containing a reducing agent (e.g. sodium formaldehyde sulfoxylate) adjusted to a pH between 5 and 9, and the dye is developed on the fiber by oxidation.

DYEING OF POLYESTER TEXTILES. Soc. Rhodiacéta. BP 795 768, May 28, 1958. Through BCIRA 38: 439 (1958). (4420)

Materials of the Terylene type are treated in a first aqueous bath at pH 9.5-10.5 and above 100° C containing a diazotizable amine (in suspension) and an alkylanilide or alkoxyanilide of beta-hydroxynaphthoic acid (in solution) and then in a second bath at 20-85° C, in which diazotization and coupling are effected.

HANK DYEING MACHINES. S. R. T. Freeman (to Freeman, Taylor Machines Ltd). BP 796 104, June 4, 1958. Through BCIRA 38: 439 (1958). (4421)

The invention relates particularly to a machine for dyeing hanks in which circulation of the dye liquor is effected by means of a shrouded propeller in a chamber or duct connected with the actual dye vat or tank. The cylindrical shroud has one or more port holes that can be opened or closed to various amounts in order to control the flow of liquor.

HANK DYEING MACHINE. S. R. T. Freeman (to Freeman, Taylor Machines Ltd). BP 796 328, June 11, 1958. Through BCIRA 38: 479 (1958). (4422)

The invention relates particularly to a hank dyeing machine of the circulating type. At least two machines, each with its propeller, are connected by conduits in such a way that some of the liquid from the compression side of one propeller is branched to the suction side of another propeller.

DYEING TIGHTLY WOUND GLASS FIBERS SIZED WITH A WATER-SWELLABLE MATERIAL. R. N. Kingsbury (to Owens-Corning Fiberglas Corp.). USP 2 849 333, Aug. 26, 1958. (4423)

Fibers sized with gelatin, carbohydrides, or swellable resins are dyed by treating the package with a water-soluble acid or direct dye in the presence of ethylene glycol and methyl alcohol.

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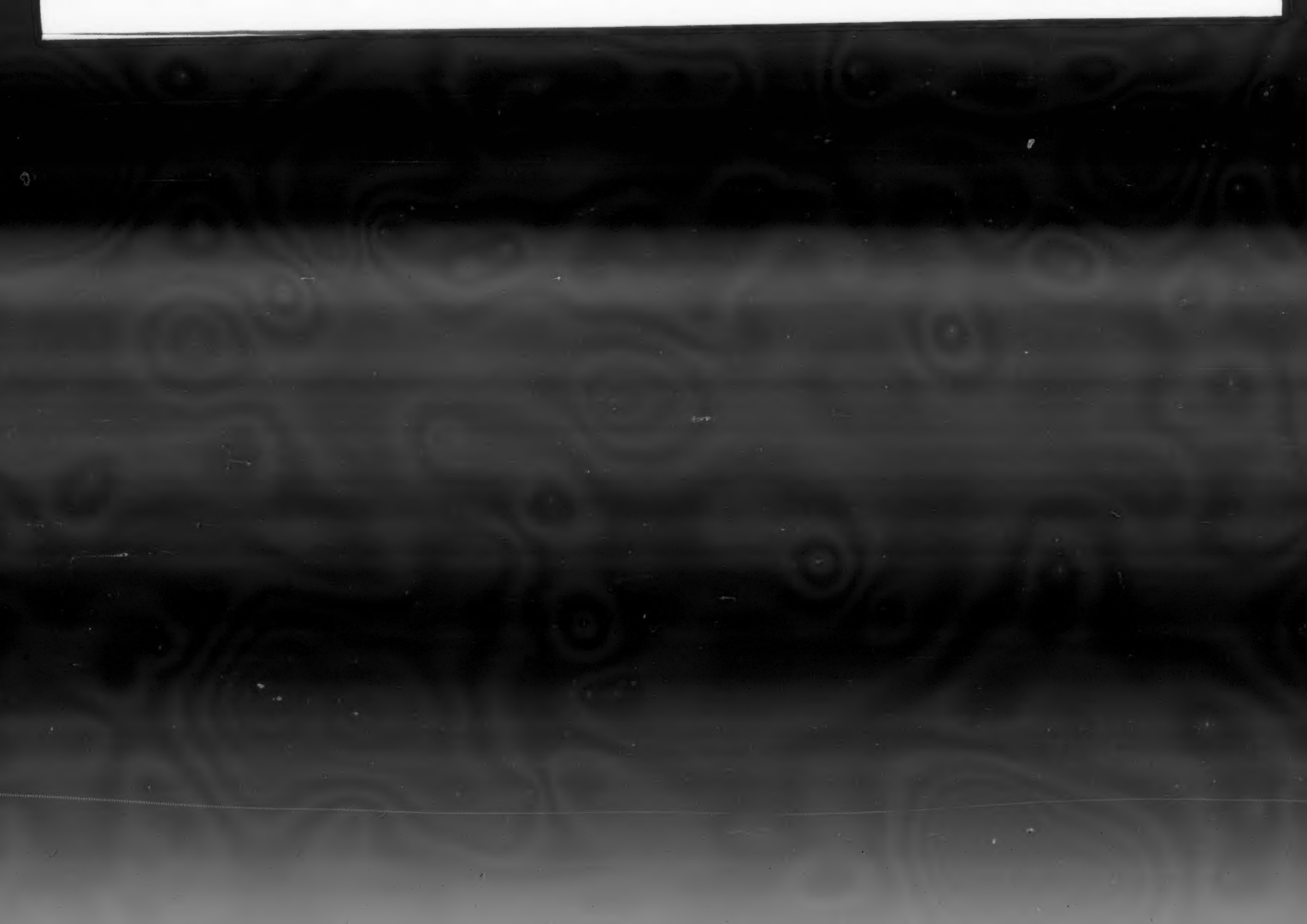

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